

2008

## Fairbanks North Star Borough

### Comprehensive Economic Development Strategy

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Comprehensive Economic Development Strategy**

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## **CHAPTER ONE: INTRODUCTION**

This Comprehensive Economic Development Strategy (CEDS) represents the community's economic development vision, and is adopted into the FNSB's long term Comprehensive Land Use Plan. The Goals, Objectives, Strategies, and Actions contained in the CEDS are the means to realizing this vision. From agriculture and mining to technology and cold climate research, these strategies reflect the diversity of the FNSB's economy.

### **The Fairbanks North Star Borough Economic Development Commission**

The FNSB Economic Development Commission is tasked with developing and maintaining the community's CEDS. The FNSB Mayor serves as the commission's chair and appoints six voting commission members, the FNSB Assembly Presiding Officer appoints the remaining two voting members.

#### Members of the 2005-06 FNSB Economic Development Commission:

##### Chair:

<u>Name:</u>	<u>Ethnicity</u>	<u>Sex</u>	<u>Representing</u>	<u>Term</u>
Mayor Jim Whitaker	White	M	FNSB Local Government	(12/09)

##### Appointed by the Mayor:

<u>Name:</u>	<u>Ethnicity</u>	<u>Sex</u>	<u>Representing</u>	<u>Term</u>
Mayor Terry Strle	White	F	City of Fairbanks Local Government	(12/08)
Jeff Jacobson	White	M	City of North Pole Local Government	(12/10)
Dean Westlake	Alaska Native	M	Nana Corporation	(12/09)
Daniel S. Osborn	White	M	Doyon Ltd. Alaska Native for Profit	(12/09)
Jeffrey J. Cook	White	M	Flint Hills Resources Oil and Gas Industry	(12/08)
John C. Poole	White	M	University of Alaska Education	(12/10)

##### Appointed by the Presiding Officer:

<u>Name:</u>	<u>Ethnicity</u>	<u>Sex</u>	<u>Representing</u>	<u>Term</u>
Kelly Brown	White	F	FNSB Assembly/Labor	(12/08)
Victoria Foote	White	F	FNSB Assembly/Education Health Services	(12/08)

## **CEDS Development Process**

In June of 1999, over 300 Fairbanks North Star Borough (FNSB) residents attended an Economic Summit focused on developing an economic development vision for the FNSB; a vision that would serve as the foundation for the CEDS. Special care was taken to include all segments of the FNSB community.

The summit participants developed most of the Goals, Objectives, and Strategies contained in the current CEDS. The seventeen members of the FNSB Economic Development Commission (EDC) refined and expanded these Goals, Objectives, and Strategies, incorporating them into the current CEDS document. This document was considered and recommended by the FNSB Planning Commission and, in 2001, approved by the Fairbanks North Star Borough Assembly.

To ensure the CEDS' Goals, Objectives, and Strategies remained relevant, and to identify new opportunities for economic development, in 2004 the FNSB's Alaska Regional Development Organization (ARDOR) updated the 2001 CEDS. This process involved surveying local community and business leaders, community groups and economic development oriented organizations. Additional input was gathered from the Fairbanks' Interior Issues Council committees on Future Economy, Cost of Energy, Land Use Planning, Workforce Development and Health Care. This survey sought to capture the community's vision for its economic development future, and the inputs have been incorporated into the 2008 CEDS.

In February 2005, the FNSB EDC reviewed and approved the proposed CEDS. This was followed by a public comment period. During this time, the FNSB ARDOR made a series of public presentations to FNSB community, economic development and business groups. In total, over 100 members of the FNSB community commented on the proposed CEDS.

Upon completion of the public comment process, the FNSB ARDOR incorporated the comments into the final draft of the CEDS, which was then presented to the FNSB Planning Commission at a public hearing. On May 3, 2005 the FNSB Planning Commission recommended that the FNSB Assembly adopt the proposed CEDS, as amended.

On June 16, 2005 the FNSB Assembly adopted the CEDS into Chapter Two of the FNSB Comprehensive Land Use Plan. Following adoption of the CEDS, the FNSB ARDOR provided the 2005 CEDS to the Federal Economic Development Administration (EDA) for their review. The EDA approved the CEDS November 29, 2005.

In 2006, 2007, and 2008 the FNSB ARDOR conducted its annual review of the CEDS with the FNSB Economic Development Commission, Planning Commission, and Assembly. The FNSB Economic Development Commission recommended major

additions and re-organizations. Minor changes were recommended by the Planning Commission and Assembly. All changes have been incorporated into the document.

### **Integrating the CEDS into the Alaska State and other Economic Development programs.**

The CEDS is regularly referred to by the Fairbanks Economic Development Corporation (FEDC), the Fairbanks North Star Borough Economic Development Commission, and other local community and economic development organizations as they develop their work plans and consider development projects. The CEDS is incorporated into the Fairbanks North Star Borough Regional Comprehensive Plan as its economic development implementation strategy. The Planning Commission and Fairbanks North Star Borough Assembly refer to the CEDS for guidance in their respective community and economic development decision making processes. The state of Alaska considers the CEDS to be a statement of support for community and economic development projects being considered by community and economic development organizations within the Fairbanks North Star Borough.

## CHAPTER TWO – VISION, GOALS, OBJECTIVES AND STRATEGIES

### VISION

To improve the quality of life and the standard of living of the residents of the Fairbanks North Star Borough (FNSB) by developing goals, establishing objectives and implementing strategies that sustain, enhance or increase economic and social opportunities for the individuals in the region.

### GOALS, OBJECTIVES AND STRATEGIES

**GOAL I – Community Development – To support organizations, businesses, individuals and governing bodies that enhance the quality of life and sense of place.**

**Objective 1.1– Infrastructure Development – Support the development, maintenance and improvement of public and private infrastructure necessary for sustainable, diverse, economic and community development for the region.**

*Strategy 1.1.A – Support the design, construction and maintenance of trail, road, rail and air transportation systems that improves access to the region.*

Action 1.1.A.41 – Support the funding and completion of the Statewide Transportation Improvement Program (STIP) projects that improve transportation in and around the FNSB.

Action 1.1.A.2 – Support the Fairbanks Metropolitan Area Transportation System (FMATS) / Metropolitan Planning Organization (MPO) and the Transportation Improvement Program (TIP).

Action 1.1.A.3 – Support development and maintenance of interconnected, mass transit, para-transit, and coordinated transportation systems.

Action 1.1.A.4 – Support retention of Alaska Railroad Depot in the existing location.

Action 1.1.A. 4– Support dedication, development, and maintenance of a borough-wide, interconnected, multiuse, trails system connecting to other areas in the Interior of Alaska.

Action 1.1.A.5 – Support development of a communitywide wayfinding system which connects signage and information to facilitate ease of travel for visitors and new residents around borough.

Action 1.1.A.6 – Expand and improve local road and streets.

*Strategy 1.1.B – Use the Fairbanks International Airport as a marketing resource to maximize its economic impact on the FNSB economy.*

*Strategy 1.1.C – Support development of commercialization infrastructure that facilitates technology transfer.*

*Strategy 1.1.D– Identify and reserve right-of-ways that provide access to natural and mineral resources in the Interior and Northern regions.*

*Strategy 1.1.E– Encourage the development of transportation routes and energy and communication systems that improve the ability of FNSB businesses to market and distribute goods, services and passengers to markets in Canada and the “Lower 48.”*

Action 1.1.E.1 – Promote establishment of National Scenic Byways and All-American Roads in the Interior.

*Strategy 1.1.F – Support the borough wide expansion of safe water, sewer, power, communications and other utilities.*

Action 1.F.6 – Support state grants that extend utilities throughout the FNSB.

*Strategy 1.1.G – Prepare for anticipated population fluctuations due to military or industrial activity.*

Action 1.1.G.1 – Support development of quality affordable housing for permanent and transient workforce.

*Strategy 1.1.H – Support planning principles that minimize urban sprawl and revitalize urban areas.*

*Strategy 1.1.I – Support transportation infrastructure improvements that improve access to the Fairbanks City Center.*

*Strategy 1.1.J – Identify and promote commercial advantages of the established Foreign Trade Zones at the Fairbanks International Airport and its sub-zones.*

*Strategy 1.1.K – Encourage continued efforts to locate heavy industrial activities in the appropriately zoned areas.*

Action 1.1.K.1 – Target Van Horn and other designated Industrial areas for industrial development.

Action 1.1.K.2 – Promote relocation of the railroad industrial yard.

**Objective 1.2 – Quality of Life Improvements – Support quality in health care, education, public safety, beautification, government and culture that would improve the individual and community quality of life in the FNSB.**

*Strategy 1.2.A – Become recognized as the arts and culture center of Alaska by developing a healthy, diverse, multicultural, and economically successful arts community.*

*Strategy 1.2.B – Promote the development and maintenance of community and cultural centers and themes that enhance the FNSB's sense of place.*

Action 1.2.B.1 – Support Chena Riverbend development project.

Action 1.2.B.2 – Support theme city development in North Pole.

Action 1.2.B.3 – Support development and construction of a community center in North Pole.

Action 1.2.B.4 – Actively support construction and operation of a Fish Hatchery in the FNSB.

Action 1.2.B.5 – Support renovation of the Alaska Centennial Center for the Arts.

Action 1.2.B.6 – Support implementation of “Vision Fairbanks” plan to revitalize downtown Fairbanks.

Action 1.2.B.7 – Develop a world-class river walk connecting the city center and Pioneer Park.

Action 1.2.B.8 – Support the South Davis Park Project.

Action 1.2.B.9 – Support design and construction of interpretive science centers.

*Strategy 1.2.C – Promote winter accessibility and safety.*

Action 1.2.C.1 – Encourage building safe road crossings.

*Strategy 1.2.D – Support the development, or renovation, of an indoor, outdoor and dual-season performance or event facility.*

*Strategy 1.2.E – Encourage physical and mental health care delivery that maintain and improve existing staff, facilities, and equipment, or add new facilities to provide quality care to residents of Interior and Northern Alaska.*

Action 1.2.E.1 – Support development of a comprehensive cardiology center.

Action 1.2.E.2 – Advocate for consideration of constructing Tanana Chief Conference's regional hospital in the FNSB.

Action 1.2.E.3 – Support development of elder care facilities and senior campuses in the FNSB.

*Strategy 1.2.F – Encourage the streamlining of government functions.*

*Strategy 1.2.G – Support development and ongoing maintenance of beautification efforts in the FNSB.*

*Strategy 1.2.H – Ensure education systems for children and adults include arts, physical fitness, and creativity as an essential component.*

*Strategy 1.2.I – Encourage provision of goods and services that will encourage people to remain in the Fairbanks North Star Borough.*

    Action 1.2.I.1 – Support implementation of recommendations from Sr. Quality of Life assessment.

    Action 1.2.I.2 – Support quality of life assessments of youth and pre-school children.

*Strategy 1.2.J – Strengthen community partnerships with University of Alaska Fairbanks.*

    Action 1.2.J.1 – Survey faculty, staff and students to identify ongoing efforts and future opportunities to expand community engagement.

    Action 1.2.J.2 – Support implementation of UAF Vision 2017 Community Engagement and Economic Development Vision Task Force recommendations.

*Strategy 1.2.K – Support development of a strategic plan to eradicate racism in the Fairbanks North Star Borough.*

**Objective 1.3 – Capacity Building – Assist local government and community organizations to develop leadership skills and the ability to successfully carry out economic and community development activities.**

*Strategy 1.3.A – Encourage the involvement of youth in all aspects of the community, including government, business, education, arts and cross-cultural exchanges.*

*Strategy 1.3.B – Support life skills, work ethics, arts, business, entrepreneurial and motivation skills in school curricula.*

*Strategy 1.3.C – Encourage and promote the identification and development of potential leaders in the community.*

**Objective 1.4 – Recreation – Support the development, maintenance and improvement of public and private recreational facilities and programs.**

*Strategy 1.4.A – Support the development and construction of year-round recreational facilities and opportunities consistent with and to capitalize upon local climatic conditions.*

    Action 1.4.A.1 – Support construction of Tanana Lakes Project.

    Action 1.4.A.2 – Support development of permanent Ice Park at Tanana Lakes.

Action 1.4.A.3 – Support construction and operation of year round indoor athletic facilities.

*Strategy 1.4.B – Continue to support development of recreational facilities used jointly by the military, other government agencies and private entities.*

*Strategy 1.4.C – Develop the FNSB as a year round sport and recreation destination center, including sled dog sports, alpine and cross country skiing, snow machining, ice carving, mountain biking, hiking, rock climbing and other recreational opportunities.*

*Strategy 1.4.D – Support the hosting of scholastic and athletic competition at all levels.*

**GOAL II – Environmental Enhancement – To sustain and improve the quality of the region’s natural environment by being wise stewards of resources and habitat.**

**Objective 2.1 – Sustainability – Support public and private efforts to foster a healthy and sustainable community.**

*Strategy 2.1.A – Continue to support area wide waste management.*

Action 2.1.A.1 – Support development of cost-effective recycling programs.

Action 2.1.A.2 – Support safe handling and disposal of waste and hazardous materials.

*Strategy 2.1.B – Support public and private efforts to provide safe water to all residents of the FNSB.*

*Strategy 2.1.C – Improve both air and water quality in the borough by advancing and supporting development and implementation of all technologies that are beneficial for our climate and locale.*

*Strategy 2.1.D – Encourage the use of sustainable design and business practices.*

Action 2.1.D.1 – Promote education of the business community on benefits of sustainable business practices.

Action 2.1.D.2 – Support development and implementation of a strategic plan to make the FNSB a sustainable community.

Action 2.1.D.3 – Become a world leader in developing and implementing sustainable building design practices.

**GOAL III – Economic Development – To support those organizations, businesses, individuals and governing bodies that promote quality job creation and economic development in Interior and Northern Alaska.**

**Objective 3.1 – Natural Resource Development – Support those organizations, businesses, individuals and governing bodies that promote development of Interior and Northern Alaska’s natural resources.**

*Strategy 3.1.A – Actively support oil and gas development in Interior and Northern Alaska.*

Action 3.1.A.1 – Encourage increased production from the Alaska North Slope.

Action 3.1.A.2 – Support opening the 1002 area of Alaska National Wildlife Reserve.

Action 3.1.A.3 – Support development of Northern Petroleum Reserve Alaska.

Action 3.1.A.4 – Support Nenana Basin gas development.

*Strategy 3.1.B – Actively support mineral development in Interior and Northern Alaska.*

Action 3.1.B.1 – Support further expansion and development of Alaska’s mineral industries.

Action 3.1.B.2 – Support continuing airborne and field geological and geophysical surveys by the State.

Action 3.1.B.3 – Actively support development of the Pogo mine.

Action 3.1.B.4 – Support continuing research to determine if development of each mine is environmentally responsible.

*Strategy 3.1.C – Support the accelerated transfer of Federal land to the State of Alaska, Native Corporations and the FNSB.*

**Objective 3.2 – Military Development – Support and promote the growth of military installations in Interior Alaska.**

*Strategy 3.2.A – Actively support needed infrastructure development for Ft. Wainwright and Eielson to meet training and personnel mission needs.*

*Strategy 3.2.B – Actively support military and civilian activities that would increase training exercises in the Interior.*

*Strategy 3.2.C – Actively support increased military cold weather and weapons research in the Interior.*

*Strategy 3.2.D – Actively support the missions of Fort Wainwright, Eielson Air Force Base, Fort Greely and Clear Air Force Station and retention of these military activities.*

Action 3.2.D.1 – Continue to support deployment of the National Missile Defense System at Fort Greely with support facilities at Eielson Air Force Base, and Fort Wainwright.

Action 3.2.D.2 – Continue to work with military leadership in preparing civilian and military communities in preparation for, and during, deployment.

Action 3.2.D.3 – Support study of land trades for possible expansion of Fort Wainwright.

*Strategy 3.2.E – Encourage military population stability at Ft. Wainwright and Eielson.*

Action 3.2.E.1 – Support retention of military dependents during deployments.

**Objective 3.3 – Technology and Research Development – Support organizations, businesses, individuals and governing bodies that promote the growth of technology and research in Interior Alaska.**

*Strategy 3.3.A – Actively support UAF efforts to increase their research contracts and grants.*

Action 3.3.A.1 – Support state and federal investment in UAF research and required facilities.

Action 3.3.A.2 – Support the continued growth of the University of the Arctic.

*Strategy 3.3.B – Promote FNSB as a desirable location for high technology operations that utilize FNSB's intellectual resources, skills and workforce.*

Action 3.3.B.1 – Continue to invest in reliable energy, and communications infrastructure.

*Strategy 3.3.C – Identify and promote logistical, environmental and other advantages of the FNSB to attract technology-related industries.*

*Strategy 3.3.D – Support public and private research organizations that utilize the Interior Alaska environment for research and product development.*

Action 3.3.D.1 – Support development of cold climate research & test facilities.

Action 3.3.D.2 – Promote establishment of a technology accelerator to aid and assist technology transfer.

Action 3.3.D.3 – Develop a research park and other commercialization infrastructure to attract private industry investors to the region.

Action 3.3.D.4 – Promote community access to venture capital.

*Strategy 3.3.E – Support provision of economic research and analysis that accurately measures the FNSB economy.*

Action 3.3.E.1 – Support regular analysis of the Fairbanks North Star Borough regional economy.

*Strategy 3.3.F – Support development of highly effective technology transfer at UAF.*

Action 3.3.F.1 – Promote commercialization of research and intellectual property from UAF or other Alaskan research institutions.

**Objective 3.4 – FNSB as a Regional Center – Continue to promote and improve the FNSB as the regional strategic, social, educational, economic, and health hub.**

*Strategy 3.4.A – Encourage air carriers to use the Fairbanks International Airport as hub for cargo and passenger service to Interior, Northern and Western Alaska.*

Action 3.4.A.1 – Encourage intrastate, interstate and international air service and aviation operators to service the Fairbanks International Airport on a daily basis.

Action 3.4.A.2 – Support efforts to develop and sustain international and competitive domestic air service and schedules, especially in activities targeting Pacific Northwest and German-speaking Europe, Japan, Taiwan and Korea

*Strategy 3.4.B – Develop the FNSB as the Northern and Interior marketplace.*

Action 3.4.B.1 – Develop social and business relationships with Interior and Northern region communities.

Action 3.4.B.2 – Educate local businesses about marketing and shipping to Interior and Northern region communities.

Action 3.4.B.3 – Encourage Fairbanks businesses to consider rural customers as an important economic opportunity and to participate in rural marketing and trade missions to targeted locations.

Action 3.4.B.4 – Support efforts to develop rural tourism through the Morris Thompson Cultural and Visitors Center.

*Strategy 3.4.C – Develop Fairbanks as the Interior’s health care hub.*

**Objective 3.5 – Agriculture – Promote the growth of agricultural industry in Interior Alaska and identify domestic and foreign markets for raw and value-added products.**

*Strategy 3.5.A – Support the development of a Market to enable local and rural producers and manufacturers to market their goods and services more effectively.*

Action 3.5.A.1 – Support development of a clearing house where local producers can easily sell their product.

*Strategy 3.5.B – Advocate and promote research to develop more profitable crops and manage invasive species for Interior Alaska.*

*Strategy 3.5.C – Encourage the development and expansion of commercial and truck farming by promoting an increase both in agricultural lands and in available experienced farmers.*

Action 3.5.C.1 – Encourage people to grow or buy locally produced meat and produce.

*Strategy 3.5.D – Encourage the involvement of the commercial farming community in all major infrastructure projects within the borough, to ensure that consideration is given to the needs of commercial agriculture infrastructure.*

*Strategy 3.5.E – Encourage adding value to all resource extraction activities.*

Action 3.5.E.1 – Actively support expansion of the value-added, forest products industry in Interior Alaska.

*Strategy 3.5.F – Support responsible forestry development in Interior and Northern Alaska.*

Action 3.5.F.1 – Support timber surveys.

Action 3.5.F.2 – Support non-timber forest product surveys.

*Strategy 3.5.G – Support development of an agriculture cooperative.*

**Objective 3.6 – Visitor Industry Development – Contribute to the economic well-being of the FNSB by developing and enhancing visitor attractions and marketing to potential visitors.**

*Strategy 3.6.A – Support activities that enhance and increase the visitor industry in the FNSB.*

Action 3.6.A.1 – Support the development of the Morris Thompson Cultural and Visitors Center.

Action 3.6.A.2 – Support continued investment that promotes regional visitor industry.

Action 3.6.A.3 – Actively support increased access to Denali National Park from Fairbanks.

Action 3.6.A.4 – Support development of the Richardson Highway and Wrangell St. Elias Park as Alaska's Adventure Corridor.

Action 3.6.A.5 – Support WEIO, Ice Alaska, Alaska International Senior Games, and other unique Alaskan events.

Action 3.6.A.6 – Support meetings and conventions that position Fairbanks as a hub for the region and a leader in the state.

Action 3.6.A.7 – Encourage development of an expanded winter schedule for passenger traffic.

Action 3.6.A.8 – Support winter activities or events that lead to increased winter tourism.

Action 3.6.A.9 – Encourage pride in the community through litter pickup and snow removal.

**Objective 3.7 – Business Development – Support and retain existing businesses and encourage the expansion and the development of new businesses.**

*Strategy 3.7.A – Encourage and support research to improve business opportunities in the FNSB.*

*Strategy 3.7.B – Encourage the privatization of appropriate government services.*

*Strategy 3.7.C – Identify and develop sources of public and private capital for the development and expansion of businesses in the FNSB.*

Action 3.7.C.1 – Develop and utilize economic incentive tools.

*Strategy 3.7.D – Develop community of entrepreneurs.*

Action 3.7.D.1 – Educate local businesses about opportunities and how to develop them.

*Strategy 3.7.E – Support development and implementation of plan to provide sufficient affordable day care.*

**GOAL IV – Enabling Infrastructure – Ensure that the core infrastructure (energy, transportation, workforce) is healthy for the foreseeable future.**

**Objective 4.1 – Stabilize and reduce cost of energy to the Interior.**

*Strategy 4.1.A – Support the development of low cost, alternative, or renewable energy and power generation including the distribution of same to all areas of the FNSB.*

Action 4.1.A.1 – Support geothermal energy production at Chena Hot Springs.

Action 4.1.A.2 – Pursue initiative to convert electric power generation from fossil fuels to renewable energy sources.

Action 4.1.A.3 – Support the Alaska Sustainable Energy Center.

Action 4.1.A.4 – Support the UAF Alaska Center for Energy and Power.

Action 4.1.A.5 – Support implementation and continuation of FNSB Regional Energy Flex Plan.

Action 4.1.A.6 – Support provision of a direct source of natural gas for the Interior.

Action 4.1.A.7 – Support Interior Alaska bio-mass/coal-to-liquids project.

*Strategy 4.1.B – Encourage expansion and development of local refinery capabilities for clean fuels and value-added products from oil and gas resources.*

Action 4.1.B.1 – Support the continued operation of Flint Hills refinery in Fairbanks.

Action 4.1.B.2 – Support Flint Hills in discussions with State to reduce tariff.

*Strategy 4.1.C -Support research and development into renewable and new alternative energy technology.*

Action 4.1.C.1 – Support efforts to use waste as a resource.

*Strategy 4.1.D – Actively support construction of a natural gas pipeline through the Interior, with particular emphasis on assuring maximum benefit to Alaska's communities and location of construction, operation, and regulatory headquarters in Fairbanks.*

Action 4.1.D.1 – Support a natural gas business park.

Action 4.1.D.2 – Advocate for consideration of take-off ports at the Yukon River, Fairbanks, Delta and other Interior and Northern locations that support economic development in the Interior and Northern regions.

Action 4.1.D.3 – Advocate for responsible development of petrochemical industry in the FNSB.

Action 4.1.D.4 – Support the development of a natural gas pipeline that would reduce the cost of energy for transportation, space heating and electric power in Interior Alaska.

**Objective 4.2– Infrastructure Development – Support the development, maintenance and improvement of core public and private transportation infrastructure.**

*Strategy 4.2.A – Support the design, construction and maintenance of core road, rail and air transportation systems that improves access to the region.*

Action 4.2.A.1 – Support the implementation of the Fairbanks International Airport Master Plan, including, but not limited to, taxiway relocation, runway reconstruction, and cargo apron relocation.

Action 4.2.A.2 – Support construction of a new airport terminal that meets Fairbanks' future needs as a national and international airport, including customs and immigration.

Action 4.2.A.3 – Support the design, funding and construction of projects, such as track relocation and a new rail yard, that would improve functionality and enhance the role of FNSB as a hub for the Alaska Railroad. Specifically encourage routes between Fairbanks, Ft. Greely, and other economic locations via an alternative route on the flood levee.

*Strategy 4.2.B – Support the development of transportation and communication systems that would strengthen the FNSB as Alaska’s economic development hub.*

*Strategy 4.2.C – Encourage the development of communications and energy infrastructure that would develop the FNSB as a communication and technology center.*

**Objective 4.3 – Workforce Development – Support the development, maintenance and improvement of local workforce necessary for sustainable, diverse, economic and community development for the region.**

*Strategy 4.3.A – Support programs that will train educators, teachers and instructors to ensure the quality of the educational system and preserve all cultural heritages.*

*Strategy 4.3.B – Encourage excellence in K-12 and post-secondary educational systems producing results that exceed state and national averages.*

Action 4.3.B.1 – Promote digital education in K-12 which provides, as per state initiative, computers and connectivity to every student in the FNSB.

*Strategy 4.3.C – Support the expansion and enhancement of the University of Alaska Fairbanks (UAF) and Tanana Valley Campus (TVC), encouraging funding at levels that allow growth, promote excellence, increasing maintenance funding, the addition of new programs, and both programmatic and institutional accreditation.*

Action 4.3.C.1 – Support completion of TVC building rehabilitation.

Action 4.3.C.2 – Support funding for adequate building construction and deferred maintenance at all University of Alaska Fairbanks campuses in the FNSB.

Action 4.3.C.3 – Support funding for Life Science Innovation and Learning Facility and UAF Energy and Engineering Facility.

*Strategy 4.3.D – Promote vocational, technical, and career training opportunities within the FNSB that prepare residents to compete in the global marketplace.*

Action 4.3.D.1 – Support construction and operation of a Pipeline Training Facility in Fairbanks.

*Strategy 4.3.E – Promote School-to-Work and School-to-Apprenticeship programs, and support steps that strengthen apprenticeship programs that prepare our workforce for jobs of the future.*

Action 4.3.E.1 – Train the next generation for construction and industrial trades.

*Strategy 4.3.F – Support FNSB as vocational and career center for Interior and Northern Communities.*

*Strategy 4.3.G – Support the “4-4-5” program to add or improve 4,000 jobs over the next four years that pay \$50,000 or more per year.*

## Appendix A: Definitions

*Sustainability* is a characteristic of a process or state that can be maintained at a certain level indefinitely (*Wikipedia*, July 23, 2008).

*Sustainable development* – “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission Report, *Our Common Future*, 1987).

*Sustainable Communities* are communities that “focus on long-term integrated systems approaches, healthy communities, and quality of life issues by addressing economic, environmental and social issues.” (B. E. Lachman, *Linking Sustainable Community Activities to Pollution Prevention: A Sourcebook*, 1997.)

## **Chapter Three - Introduction:**

The Fairbanks North Star Borough is the second largest community in Alaska. It has a number of economic clusters, the local, state and national government; natural resource extraction; research university; construction; transportation; health services; social services; retail and providing regional services.

### **Location and Climate**

#### **Location**

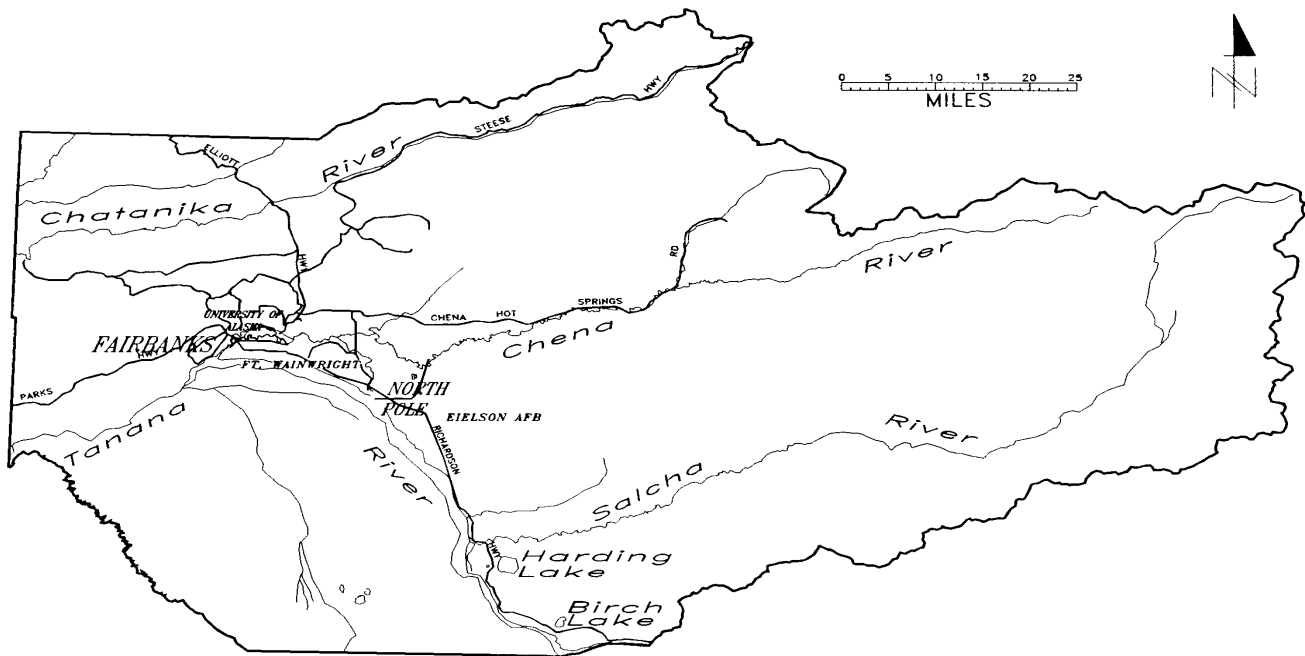
The Fairbanks North Star Borough (FNSB) is located in the center of Interior Alaska (Figure 1). Two cities reside within the FNSB, Fairbanks and North Pole, as well as the unincorporated communities of College, Ester, Fox, Harding-Birch Lakes, Moose Creek, Pleasant Valley, Salcha, and Two Rivers. The FNSB lies within the Tanana Valley, which stretches east to the Canadian border. The City of Fairbanks lies on the banks of the Chena River, which drains into the Tanana River immediately south of the city. The City of North Pole lies 14 miles southeast of Fairbanks between the Fort Wainwright Army Post and Eielson Air Force Base. The Chatanika, Chena, and Salcha River drainages define the area to the north, east and west of the urban centers.

The FNSB is Alaska's second most populated borough and residents commonly refer to it as the "Golden Heart of Alaska." Due to its central location, the FNSB is the transportation, trade and service center for the vast Interior and Northern regions of Alaska. The FNSB is the northern terminus of the Alaska Railroad with southern access to the ports of Seward, Anchorage, and Nenana. The Richardson, Parks, Steese and Elliot Highways connect the FNSB to Valdez, Prudhoe Bay, Anchorage, Canada and the Continental United States. The FSNB's location along transpolar air routes makes it logistically attractive for global air transportation and military operations.

#### **Climate**

The FNSB experiences seasonal temperature extremes similar to those of other communities in Interior Alaska. The Alaska Range to the south, keeps the wet, humid, coastal weather at bay. The Brooks Range to the north protects the Interior from harsh Arctic winds. Temperatures extremes of -80° F (-62° C) in the winter and 90° F (32° C) in the summer have been recorded in the Interior region. Typically, the FNSB experiences winter temperatures of -40°F or colder occur for about two weeks each winter, summer days are long and warm with up to 21 hours of sunlight and annual precipitation averages about 11 inches.

Figure 1 Fairbanks North Star Borough Map



## Population Trends and Characteristics

The FNSB contains the second largest metropolitan population in the State of Alaska, approximately 14% of the total state population according to the 2007 U.S. census estimates (July 1, 2007).<sup>1\*</sup> Changes in the FNSB's population have typically followed the growth and decline of the regional economy. Rapid population growth between 1970 and 1980 was largely influenced by the construction of the 800-mile Trans Alaska Pipeline System and resulting economic expansion.

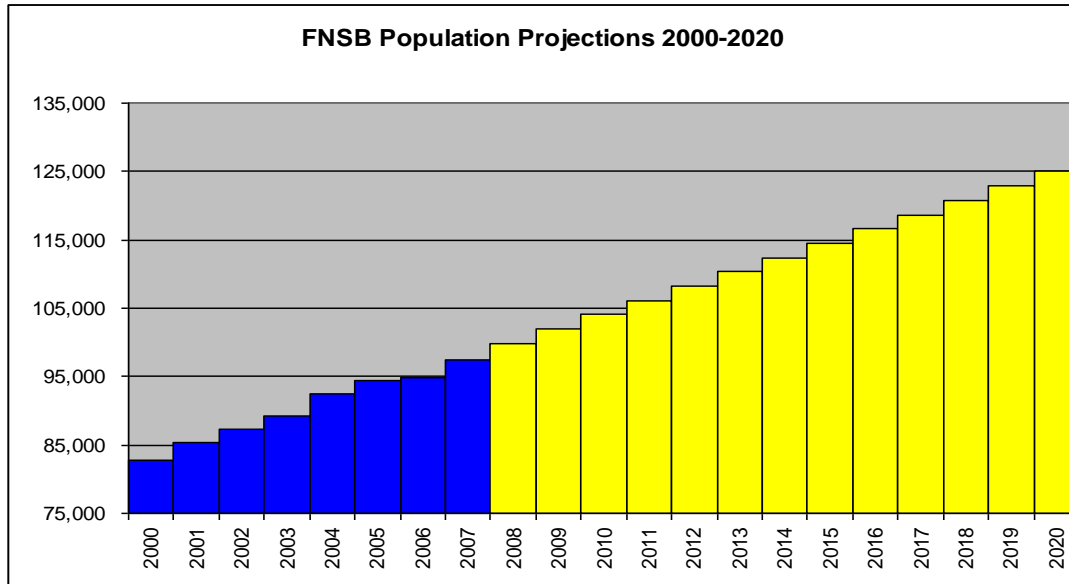
Population growth in the FNSB has been steady throughout the first 7 years of this decade, rising from an official population of 82,840 in 2000 to the latest U.S. census population estimate of 97,484 (July 1, 2007).<sup>2</sup> This represents nearly an 18% increase over 7 years, an average of 2.3% per year. The FNSB population growth is predicted to remain positive into the future.<sup>3</sup>

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\* In 2006 FNSB successfully challenged the U.S. Census Bureau's population numbers resulting in an 8% increase in the boroughs' estimated population. This correction was applied retroactively to all FNSB population estimates starting from 2001 onward. Unfortunately the census bureau only adjusted the total population estimates for those years and not any other demographic information. Thus all statistics in this section based on total population is based on the adjusted census estimates and all demographics, unless otherwise stated, is based on the original estimates. This is believed to be a minor issue.

Using a simple linear regression on the adjusted census data from the years 2001-07 population estimates can be projected out to 2020 (figure 2).

**Figure 2: Population Projections**



Yellow indicates projected population

### *Racial and Ethnic Composition*

While the FNSB has a predominantly Caucasian/White population the two fastest growing segments are people of Hispanic<sup>†</sup> and Asian decent. The increase in the Alaskan Native and/or American Indian segment of the population follows a statewide trend of Alaskan Native people migrating from rural locations to urban centers. According to the U.S. Census Bureau the FNSB's Hispanic population grew nearly 44% between 2000 and 2006, and represents approximately 5.4% of the borough's population.<sup>4</sup>

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<sup>†</sup> The U.S. Census Bureau defines "Hispanic" as an ethnicity and may be a person of any race.

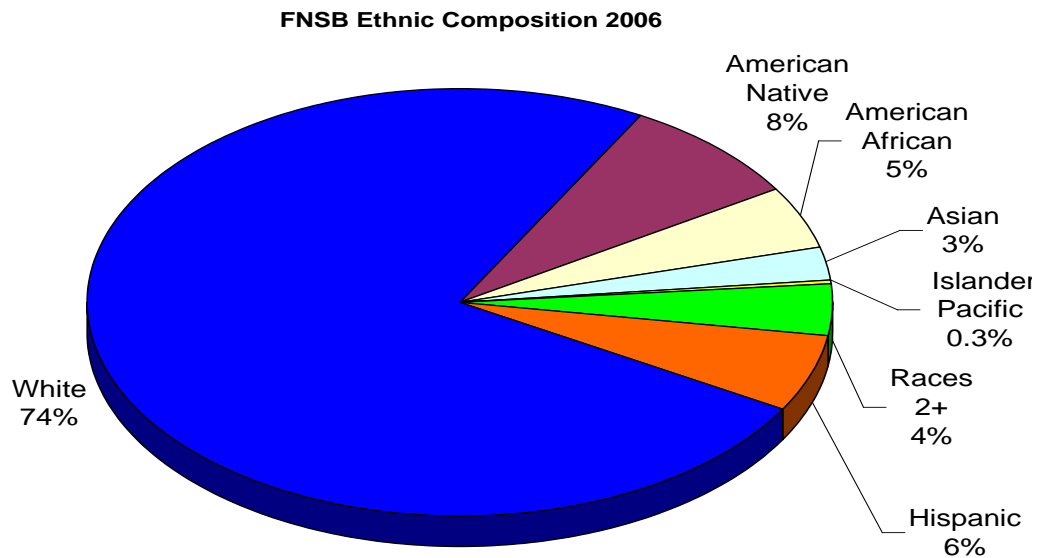
Between 2000 and 2006, the Alaska Native and/or American Indian (non-Hispanic) population in the FNSB has increased by 21.2% and represents approximately 7.8% of the total population.<sup>5</sup> The relative size of the Alaska Native population within the total FNSB population is below the statewide average of 15.4%.

The Caucasian/White (non-Hispanic) population has grown about 3% percent between 2000 and 2006 and approximately 74% of the FNSB population. Despite the low growth rate the relative representation of this population segment among the total population is greater than the statewide average of 66.4%.<sup>6</sup>

Between 2000 and 2006 the African American (non-Hispanic) population has decreased 12.2% and represents 4.8% of the FNSB population. Despite the decline the relative representation of this population segment among the total FNSB population remains above the statewide average of 3.4%.<sup>7</sup>

The Asian (non-Hispanic) population has grown 32% between 2000 and 2006 and now represents approximately 2.6% of the total FNSB population. The relative representation of this population segment among the total FNSB population remains below the statewide average of 4.5%.

Figure 3: Racial & Ethnic Composition

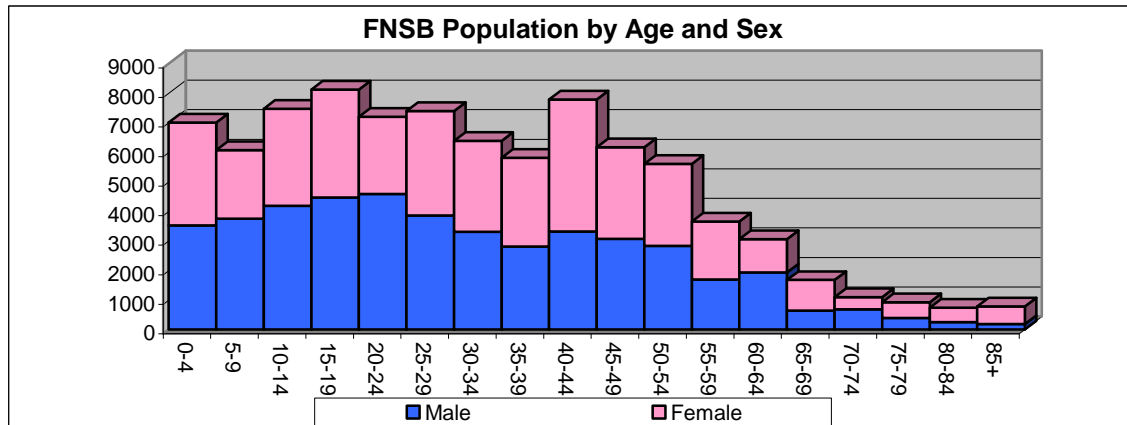


Source: U.S. Census Bureau 2006 American Community Survey

### *Age and Sex*

In 2000, the median age in the FNSB had increased to 29.5 years.<sup>8</sup> The U.S. census estimates that in 2006 the median age in the FNSB was 30.0 years compared to the statewide and national median ages of 33.4 and 36.4 years respectively.<sup>9</sup> Factors influencing this trend of increasing median age are increasing life expectancy, birth and death rates, migration and the presence of military and university populations.<sup>10</sup>

**Figure 4: Age & Sex**



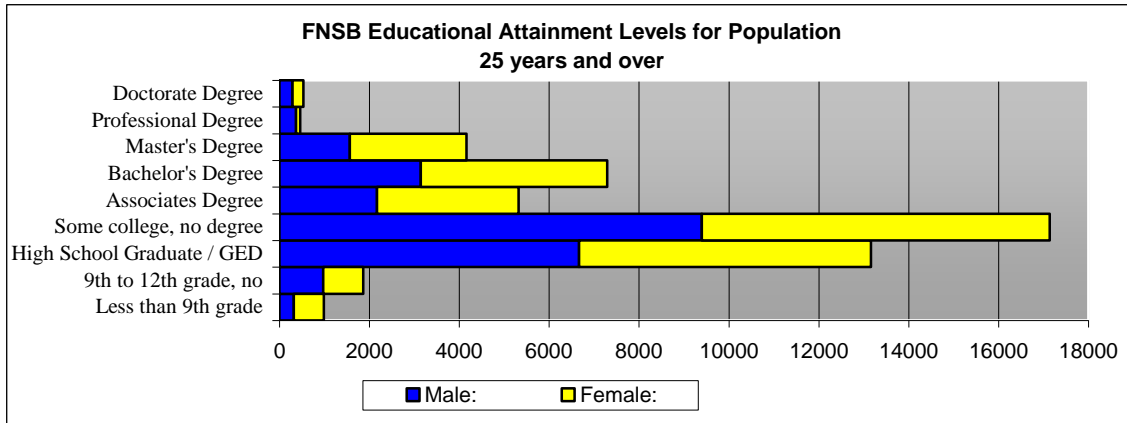
Source: U.S. Census Bureau 2006 American Community Survey

In 2006, the FNSB's population is made up of 52% males and 48% females, identical to that for the state (Figure 4).<sup>11</sup> These sex compositions are projected to align with the national average of 49% male and 51% female as the Alaskan population continues to grow.<sup>12</sup>

### *Educational Attainment*

The percentage of the FNSB's population over age 25 that has a high school diploma or GED increased from 92% in 2000 to 94.4% in 2006 and remains above the state average of 89.7%, as well as the national average of 84.1%.<sup>13</sup> Between 2000 and 2006 the percentage of the FNSB's population over the age of 25 holding a Bachelor's degree or

**Figure 5: Educational Attainment**



Source: U.S. Census Bureau 2006 American Community Survey

higher decreased 2.5 percentage points to 24.5% This is still comparable with the state average of 26.9% and very much inline with the national average of 24.4% (Figure 5).

## Labor Force, Employment and Income

The FNSB has a growing labor force that added 11,700 workers since 1990-2004.<sup>14</sup> The FNSB has experienced 19 years of consecutive employment growth, and that trend is expected to continue through 2008.<sup>15</sup> Growth of the FNSB workforce follows a statewide trend of an expanding labor force. Between 2000 and 2007 annual unemployment rates in the Fairbanks Metropolitan Statistical Area (MSA)<sup>‡</sup> declined from 6% to 5.2%.<sup>16</sup> As of May 2008 the unemployment in the Fairbanks MSA was 5.6% and continues to remain below statewide unemployment rates.<sup>17</sup>

According to preliminary estimates by the Alaska Department of labor the service-providing<sup>§</sup> sector of the economy continues to be by far the largest employment sector in the FNSB, accounting for nearly 89% of the borough's employment in 2007.<sup>18</sup> Professional and Business Services was the fastest growing sub-sector within service-providing sector, increasing 9.1% from 2006 to 2007.<sup>19</sup>

<sup>‡</sup> For all practical intents and purposes the Fairbanks Metropolitan Statistical Area and the Fairbanks North Star Borough can be taken to mean one and the same.

<sup>§</sup> Excludes self-employed workers, fishermen, domestic workers, unpaid family workers and nonprofit volunteers

The per capita personal income in the Fairbanks MSA has grown from 27,827 to 34,722 between 2000 and 2006.<sup>20</sup>

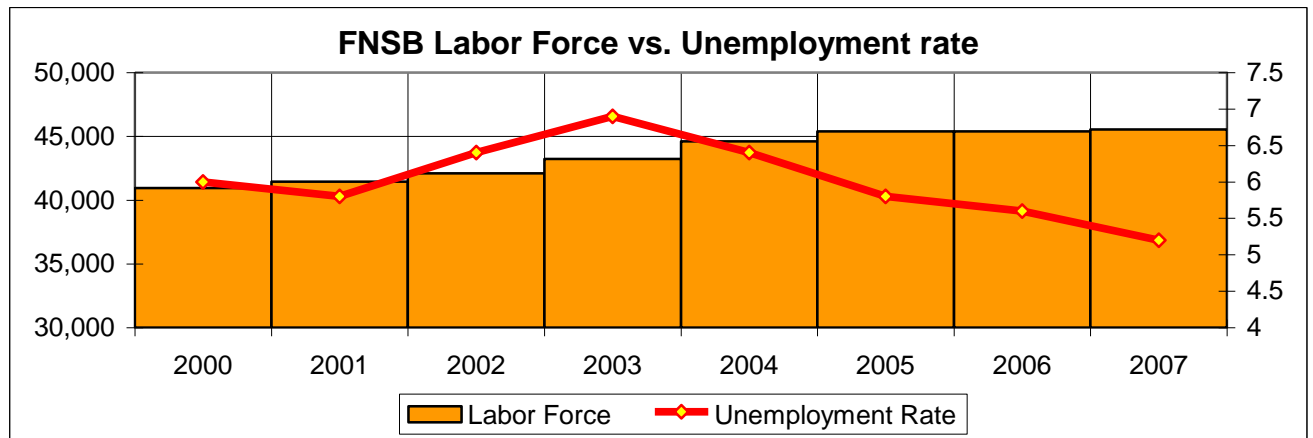
### *Labor Force*

Between 2000<sup>\*\*</sup> and 2007, the FNSB labor force grew 14.5% (Figure 6).<sup>21</sup> This rate corresponds with the statewide labor force growth rate of 10.4% during the same period.<sup>22</sup> The US Census Bureau reports that as of 2006 29.3% of the FNSB's residents age 16 and over were not in the labor force. This is inline with the state average of 28.2%.<sup>23</sup>

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<sup>\*\*</sup> A change in the way the labor force statistics are calculated for boroughs and census areas makes data prior to 2000 not comparable with data from 2000 forward.

**Figure 6: Unemployment**



Source: AK Department of Labor (Thru May 2008)

### *Employment*

Between 1990 and 2000, the service-providing sector of the FNSB economy grew by 2%, comparable to the statewide sector growth rate of 2%.<sup>24</sup> Between 2001 and 2007, the service-providing sector of the FNSB economy grew by 9%, comparable to the statewide sector growth rate of 9%.<sup>25</sup> The service-providing sector includes the industry employment categories of Trade, Transportation and Utilities, Financial services, Professional and Business services, Educational and Health services, and Leisure and Hospitality services. Due to changes in industry classification and grouping in 2001, direct comparison between industry employment categories for these two respective time periods is not possible.<sup>26</sup>

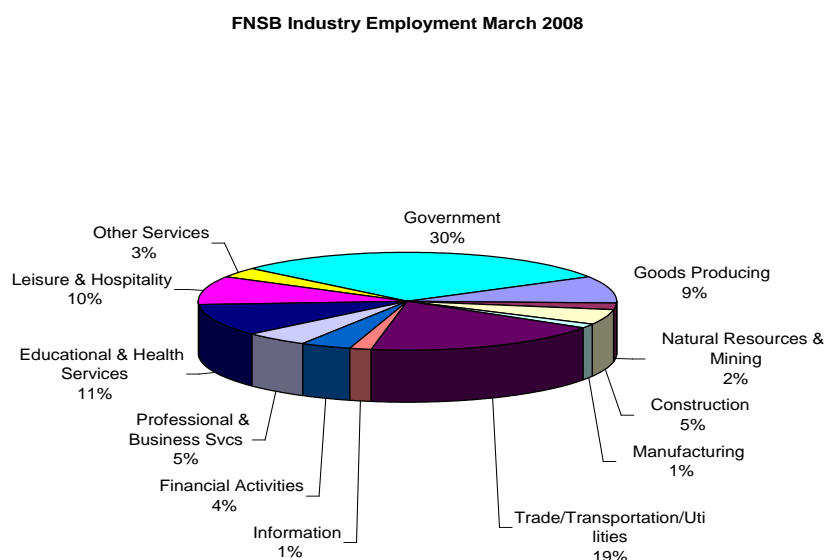
Between 2001 and 2007, FNSB employment in the Education and Health Services industry grew by 23.5%, which is slightly lower than the statewide education and health services industry growth rate of 32.2% during the same time period.<sup>27</sup> During this same period, FNSB employment in the Retail Trades, a component of the Trades/Transportation/Utilities industry, grew 20%, well above the statewide retail trade industry growth rate of 8.4% percent. FNSB Employment in the Leisure/Hospitality industry grew by 16.2% between 2001 and 2007, comparable to statewide leisure and hospitality growth of 13% during the same period.<sup>28</sup> FNSB employment in the Transportation/Warehousing/Utilities declined by 8% form 2001 to 2007, while statewide employment levels in this category grew a 3.3% during this period (Figure 7).

The goods producing sector of the FSNB economy grew by one percent between 1990<sup>29</sup> and 2000,<sup>30</sup> contrasting with a statewide decline of 2%. Between 2001 and 2007, the FNSB goods-producing sector grew by 25%, compared to a statewide growth rate of 16.2%.<sup>31</sup> The service-providing sector also includes the industry employment categories

of Natural resources & Mining, Construction, and Manufacturing. Due to changes in industry classification and grouping in 2001, direct comparison between industry employment categories for these two respective time periods is not possible.<sup>32</sup>

Between 2001 and 2007, FNSB employment in construction industry grew by 40%, which exceeds the statewide construction industry growth of 17.4%. During this same period, FNSB employment in the Manufacturing industry grew by 27.2%, above the statewide industry growth of 12%. FNSB employment in the Natural Resources and Mining industry declined 5.3% from 2001 to 2007 compared to a statewide growth in Natural resources and Mining employment of 15% during the same period.

**Figure 7: Industry Employment**

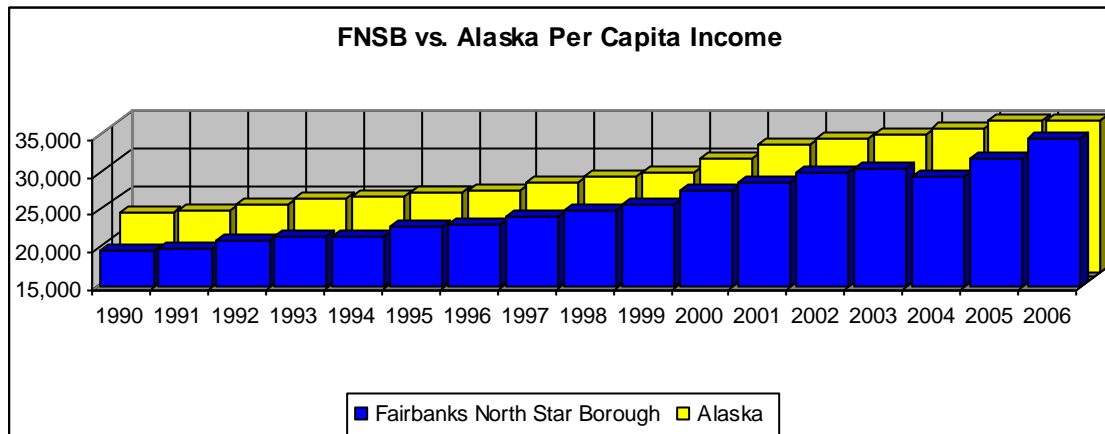


Source: AK Dept of Labor: Industry Employment Estimates 2008

### *Income*

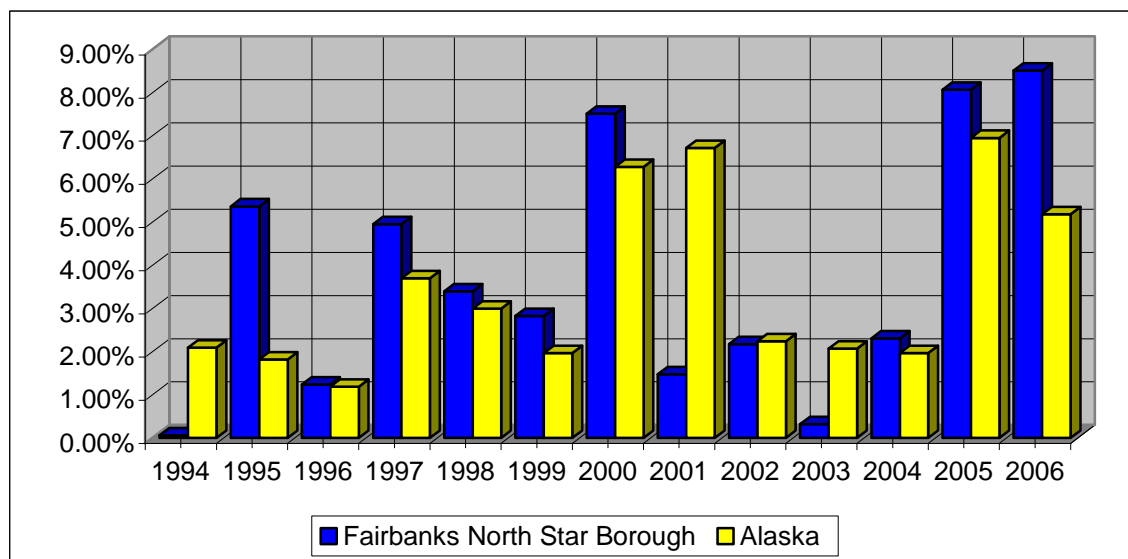
Between 2000 and 2006, per capita personal income in the FNSB increased by 25%, or at an annual average rate of 3.7%<sup>33</sup>. During this same period, statewide per capita personal income grew by 28%, or at an annual average rate of 4%<sup>34</sup> (Figure 8 & 9).

**Figure 8: Per Capita Income**



Source: Bureau of Economic Analysis

**Figure 9: Increase in Per Capita Income**



Source: Bureau of Economic Analysis

### *Poverty*

The poverty rate in the FNSB has increased since 2000 from 7% to 8.9% in 2005.<sup>35</sup> This follows a trend statewide that saw the overall poverty rate in Alaska increase from 8.5% to 10.9% over the same time period.<sup>36</sup>

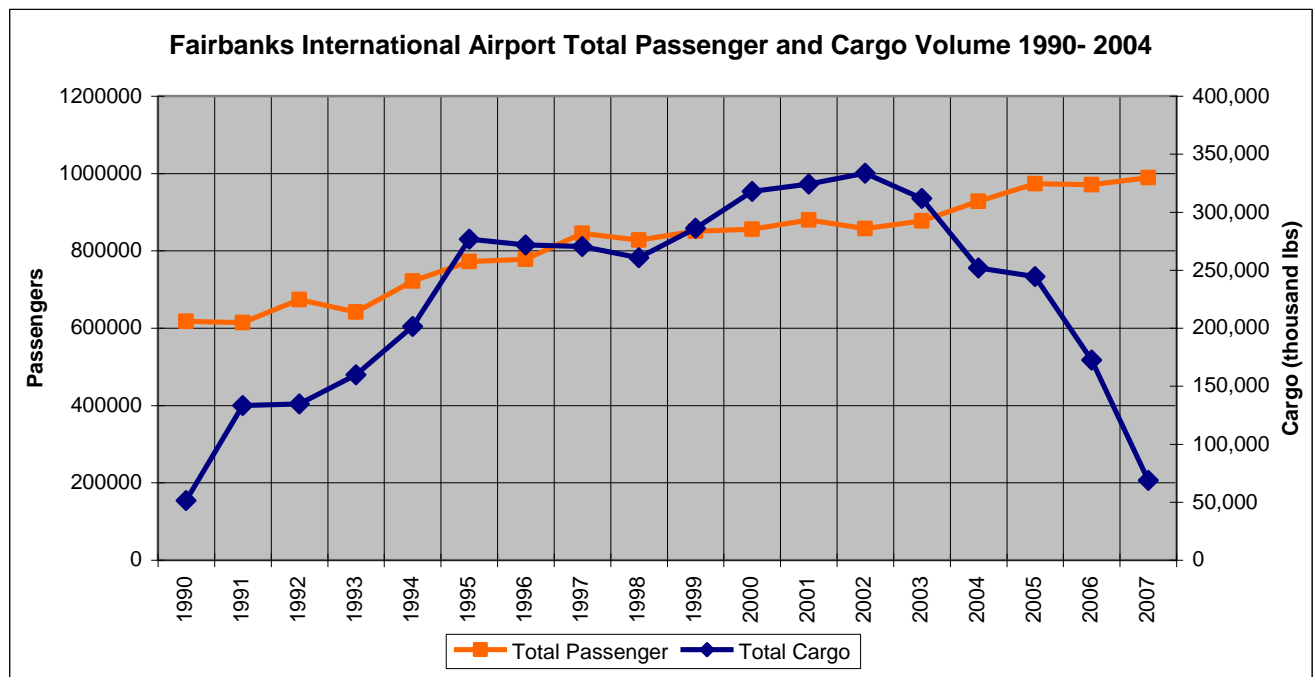
## Infrastructure Profile

### *Air Transportation*

Air transportation is central to the Alaskan economy. Due to the limited reach and seasonal nature of other transportation, air transportation is integral, and has a much larger economic impact on the state of Alaska than most other states in the Union. International and domestic air cargo and passenger service are the main components of air transportation's role in the FNSB's economy. The availability of competitively priced jet fuel from local refineries, and delay-free operations and strategic global position, Fairbanks International Airport (FAI) serves a refueling stop for international air cargo flights. FAI serves as a hub for many communities in Interior and Northern Alaska that rely upon air freight and commuter services. Air transportation provides these rural and remote communities with regular access to health and dental care as well as mail delivery.

Fairbanks International Airport reports that total passenger volume increased 13.5% between 2000 and 2007 to 989,280 passengers (Figure 10).<sup>37</sup> During this same period total cargo volume declined 78.4% to approximately 69 million pounds. Fuel flowage declined 74% from 51 million gallons in 2000 to 13 million gallons in 2007.

**Figure 10: Airport Passenger & Cargo Volumes**



Source: Fairbanks International Airport

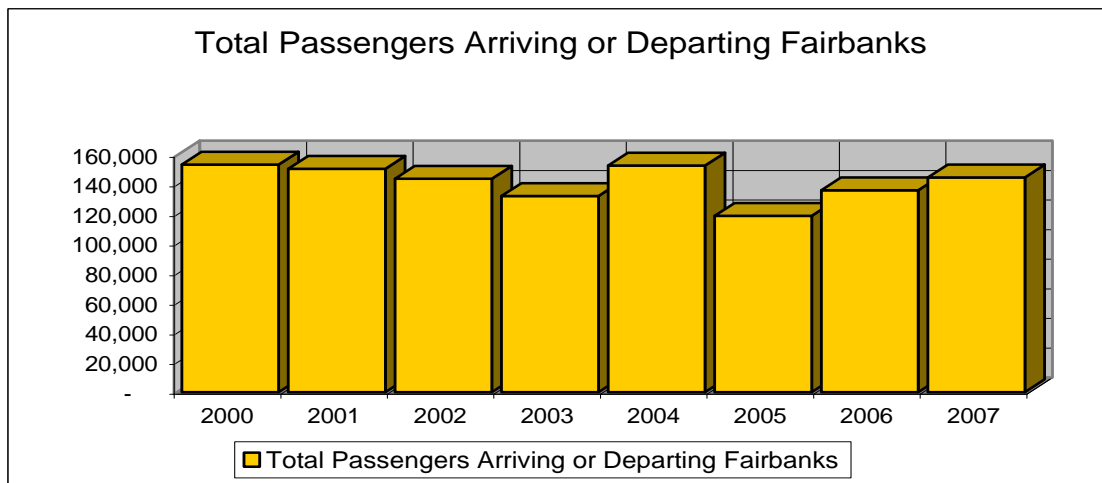
*Alaska Railroad Corporation*

The Alaska Railroad Corporation (ARRC) was acquired from the Federal government on January 5, 1985 and is an independently managed corporation owned by the State of Alaska. The regional railroad's mainline extends 470 miles from the all-season, deep-water port of Seward to its northern terminus in Fairbanks. From Fairbanks the railroad extends 28 miles east of Fairbanks to the oil refineries in North Pole and Eielson Air Force Base.

AARC provides both passenger and freight service to the FNSB. Passenger service is primarily a summer operation serving the visitor industry. Coal is transported from the Usibelli Coal Mine, in Healy, to power generation plants in Fairbanks, Ft. Wainwright and Eielson AFB. AARC transports jet fuel from North Pole refineries to Anchorage International Airport.

Total AARC passenger volume through Fairbanks remained relatively constant between 2000 and 2007 (Figure 11).<sup>38</sup> The total volume of passengers arriving in Fairbanks decreased nearly 6% from the decade high in 2000 to 2007. During this same period total volume of passengers departing Fairbanks increased seven percent.

**Figure 11: Alaska Rail Road Passenger Volume**

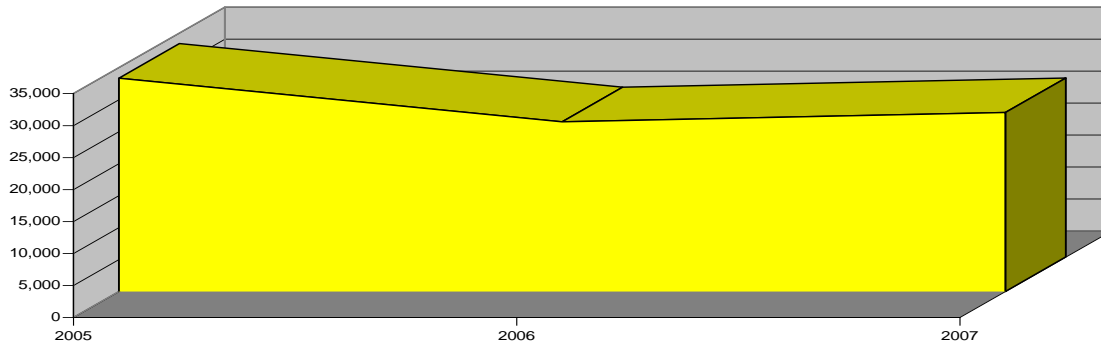


Source: Alaska Railroad

Finally, the total volume of petroleum railcars departing refineries in Fairbanks increased 17% between 2000 and 2004 (Figure 12).

**Figure 12: Petroleum Railcars**

Petroleum Railcars Departing Refineries in FNSB

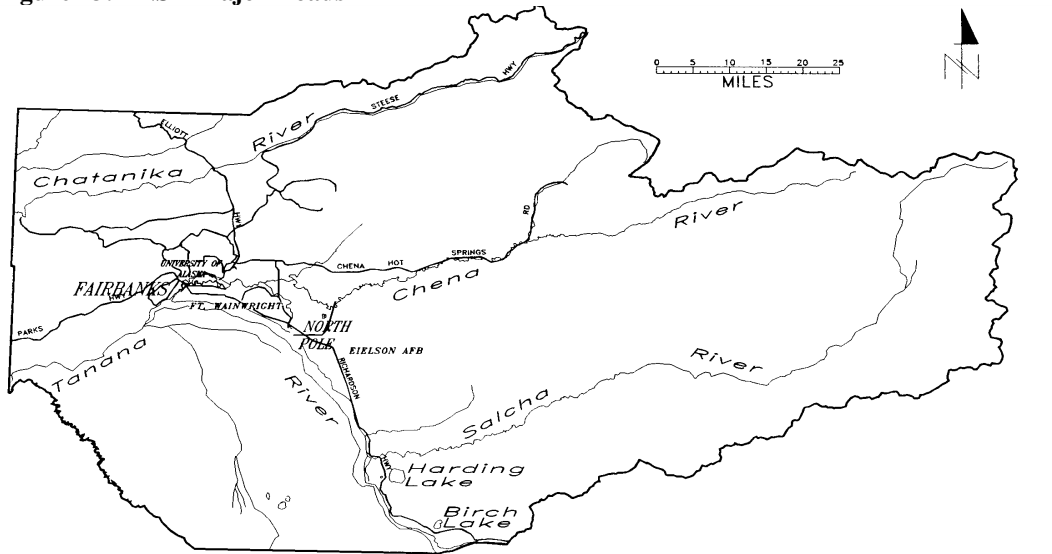


Source: Alaska Railroad

### *Highway, Road and Trail Systems*

The Alaska Highway connects Fairbanks to Canada and the Continental US (Figure 13). The Alaska Highway terminates at Delta Junction where it meets the Richardson Highway, which continues on to Fairbanks. The Richardson Highway, a historic trail used during the gold rush, connects Fairbanks with Valdez. The Parks Highway extends 300 miles south from Fairbanks to Wasilla where it connects with the Glenn Highway to Anchorage and Glennallen. The George Parks Highway was constructed in the late 60s to shorten road travel time between Fairbanks and Anchorage. It also provides access to Denali National Park, the State's top tourist attraction. The Steese Highway leads north to Circle and the Yukon River. North of Fairbanks, the Chena Hot Springs road branches east from the Steese Highway. The junction of the Elliott and Steese highways is at Fox, north of Fairbanks. The Elliott Highway extends west to Livengood, Minto and Manley Hot Springs. The Dalton Highway begins just north of Livengood and continues north to the Prudhoe Bay oil fields. During the winter months, ice roads and winter trails traveled by truck, snow machine and dog sled connect rural communities inaccessible by road or highway.

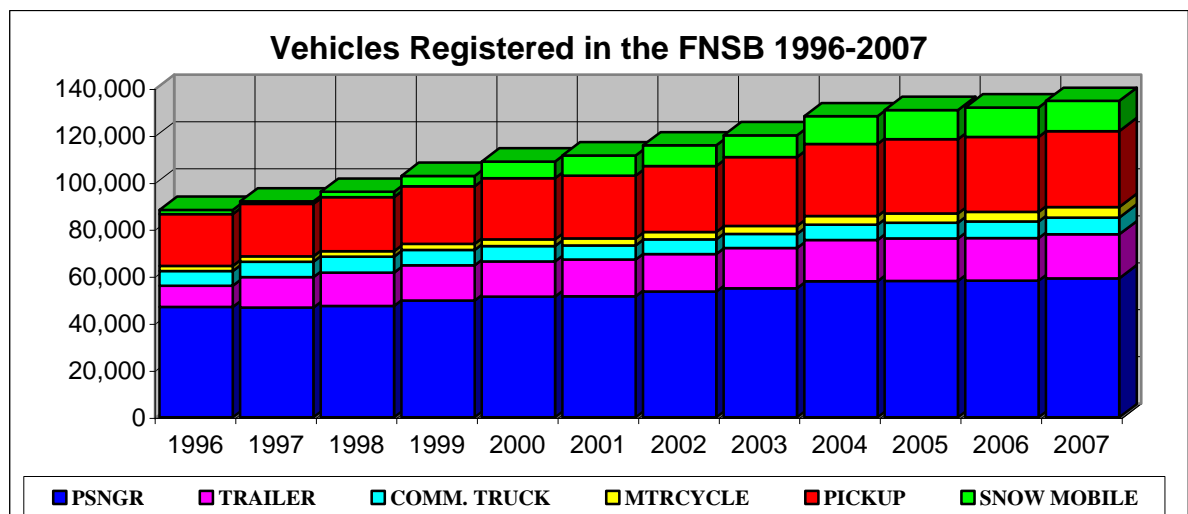
Figure 13: FNSB Major Roads



Source: FNSB Community Research Center

State and Borough road and trail networks have been receiving an increasing amount of use. According to the Alaska Division of Motor Vehicles there were 136,979 motor vehicles registered in the FNSB in 2007 (Figure 14).<sup>39</sup> This represents a 23% increase from 2000. The number of passenger vehicles registered in the FNSB increased 15% during this period. The number of pickups registered increased nearly 24% to 32,313 from 2000 to 2007. The number of motorcycles and snow machines registered in the FNSB increased 58% and 82% respectively during this period.

Figure 14: Vehicles Registration



Source: AK Dept. of Motor Vehicles

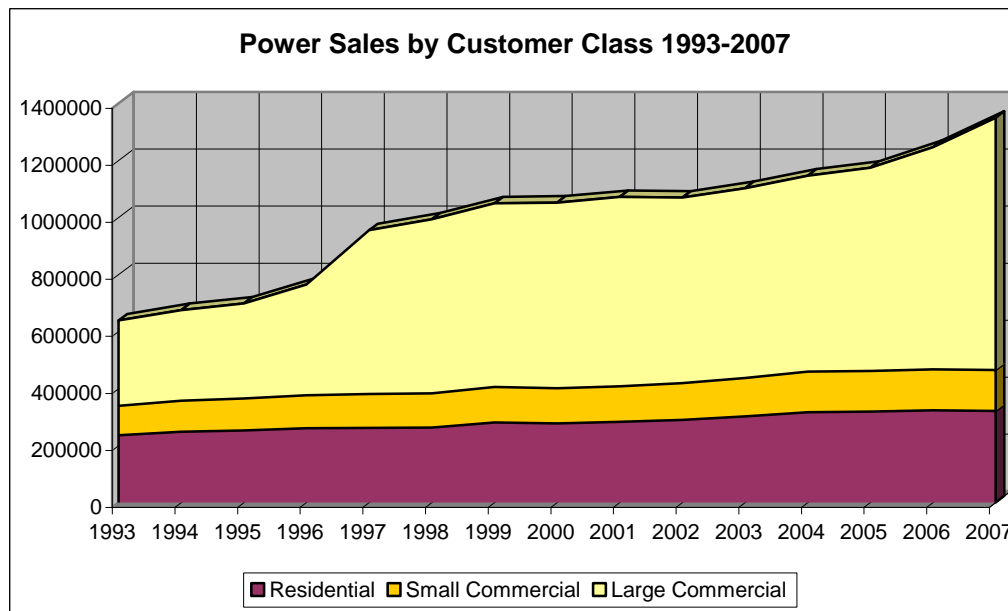
## Electric Utilities

Golden Valley Electric Association (GVEA) distributes power to service locations in Fairbanks, Delta, Nenana and Cantwell over 2,475 miles of transmission and distribution lines. The utility uses oil and coal to fuel their five electrical generating facilities. Over the last decade, kilowatt-hour purchases more than doubled as the number of large commercial customers increased.

GVEA reports in its 2008 Load Forecast that residential class sales have grown at a compounded average annual rate of 2.1% since 1997.<sup>40</sup> Small commercial class sales have grown at a compounded average annual rate of 1.9%. Large commercial class sales have grown at a compounded average annual rate of 4.4% during this period (Figure 15).

The University of Alaska Fairbanks, Ft. Wainwright, and Eielson Air Force Base have their own electrical generating facilities. All electrical providers are linked to an intertie system that can provide back-up power in the event of a power outage or other emergency. Some of these providers also sell surplus power to one another on a common power grid that links Anchorage and Fairbanks.

**Figure 15: Power Consumption**



Source: GVEA 2004 Load Forecast

## **Telecommunications**

The FNSB serves as a hub for telecommunications services to Interior and Northern Regions of Alaska. Fairbanks is connected to Alaska's fiber optic cable system that runs from Prudhoe Bay to Anchorage. Alaska is connected to the Continental US by four fiber optic cables.

Three competing companies provide interstate and intrastate long distance for the Interior. These three firms also provide wireless network service. Internet access has four competing providers.

Alaskans and residents of the Interior and Northern regions especially, rely extensively upon wireless networks and satellite-based telecommunications services. Given the geographic isolation of many of these communities, many services provided in the FNSB, such as post-secondary educational courses, are extended to outlying communities via these networks.

## **Water Treatment and Distribution**

The water distribution system in the FNSB consists of over 200 miles of water main, 1300 fire hydrants, 15 pump stations and four source wells. Golden Heart Utilities (GHU) operates a water treatment facility that treats an average of three million gallons of water per day for over 30,000 people.<sup>41</sup>

College Utilities Corporation provides water service to approximately 170 businesses and 10,000 residents with about 1,900 service connections.<sup>42</sup> About 250 million gallons of water are distributed annually through 64 miles of transmission and distribution mains. Ft. Wainwright and the City of North Pole have their own water systems and North Pole also has its own sewage treatment plant, while Ft. Wainwright utilizes GHU's Wastewater treatment plant.

Much of the FNSB's population is not connected to water and sewer utilities. The arctic environment complicates extending water and sewer utilities to outlying population areas. Many Borough residents rely upon water delivery services to their homes.

## **Solid Waste**

The FNSB operates landfills for solid waste disposal. The Borough has solid waste transfer sites for residents living where there is no public trash collection service. These facilities accept a broad range of refuse including waste oil, batteries and have cells for disposal of asbestos. The City of Fairbanks provides residential trash collection service. Private trash pick up is also available in the North Pole area at the curbside. Ft. Wainwright and Eielson AFB have their own landfills for solid waste disposal.

The FNSB Department of Public Works Solid Waste division reports that 113,052 tons of material was received by the FNSB landfill in fiscal year 2007 (FY07).<sup>43</sup> This represents a 2.98% increase from the FY06 total. The FNSB Solid Waste division also operates a recycling program, which processed 18,824 gallons of waste oil, 176 tons of batteries, 6,282 gallons of antifreeze, and 622 tons of waste paper in FY07.<sup>44</sup>

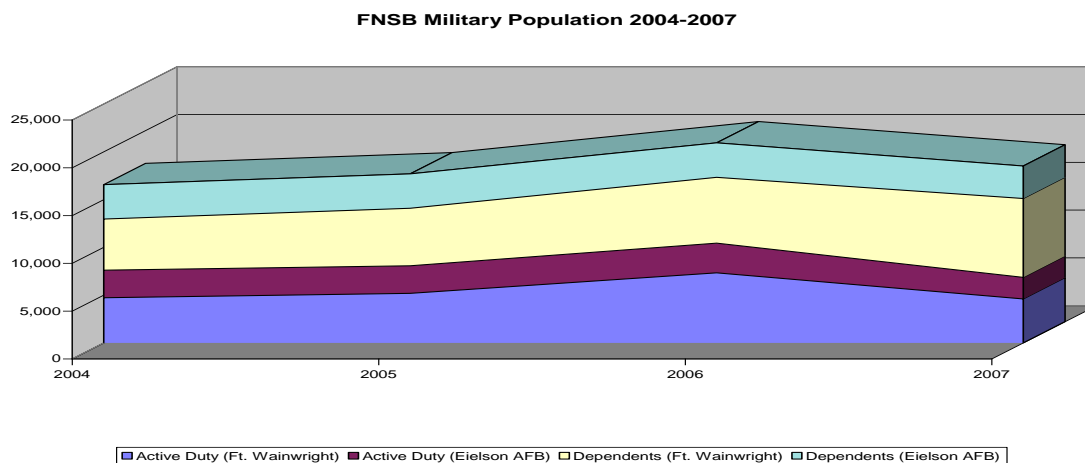
## **Military, University, Research and Technology**

### *Military*

Two military bases are located within the Fairbanks North Star Borough. Fort Wainwright Army Base and Eielson Air Force Base (AFB) provide mission support, joint operations training, arctic operations training, and cold climate testing services for the US Army and Air Force missions in Alaska and abroad. Additionally, 100 miles southeast of the FNSB, along the Richardson highway lays Ft. Greely, which houses and provides mission support for the ground-based missile defense capabilities.

Ft. Wainwright borders the City of Fairbanks to the east and is home to the 172nd Stryker Brigade Combat Team which is comprised of the 1<sup>st</sup> Battalion 17<sup>th</sup> Infantry, 2<sup>nd</sup> Battalion 1<sup>st</sup> Infantry, 4<sup>th</sup> Battalion 11<sup>th</sup> Field Artillery, 4th Squadron 14 Cavalry, 172nd Brigade Support Battalion, 52<sup>nd</sup> AT Company, 562<sup>nd</sup> Engineer Company, 21<sup>st</sup> Signal Company, and the 572<sup>nd</sup> MI Company. Other US Army Alaska units stationed at Ft. Wainwright include the 1<sup>st</sup> Battalion 52<sup>nd</sup> Aviation, 4<sup>th</sup> Battalion 123<sup>rd</sup> Aviation, 203<sup>rd</sup> Personnel Services Battalion, 507<sup>th</sup> Signal Company, Northern Warfare Training Center, and the 9<sup>th</sup> Army Band.<sup>45</sup> Ft. Wainwright is also the host to a number of mission support tenant units, including the 3<sup>rd</sup> Air Support Operations Squadron and MEDDAC/DENTAC units.

**Figure 16: Military Population**



Source: FNSB Community Research

Eielson AFB borders the City of North Pole to the east and is home to the 354th Fighter Wing. The 354<sup>th</sup> Fighter Wing is comprised of the 354<sup>th</sup> Operations Group, the 354<sup>th</sup> Maintenance Group, the 354<sup>th</sup> Mission Support Group, and the 354<sup>th</sup> Medical Group. Eielson AFB is also host to the Alaska Air National Guard's 168th Aerial Refueling Wing and the 353<sup>rd</sup> Combat Training Squadron.<sup>46</sup>

Ft Greely borders the community of Delta Junction to the south and is home to US Army Space and Missile Defense Command units, Missile Defense Agency – Ground Based Midcourse Defense units, and provides training and support services for Alaska National Guard.

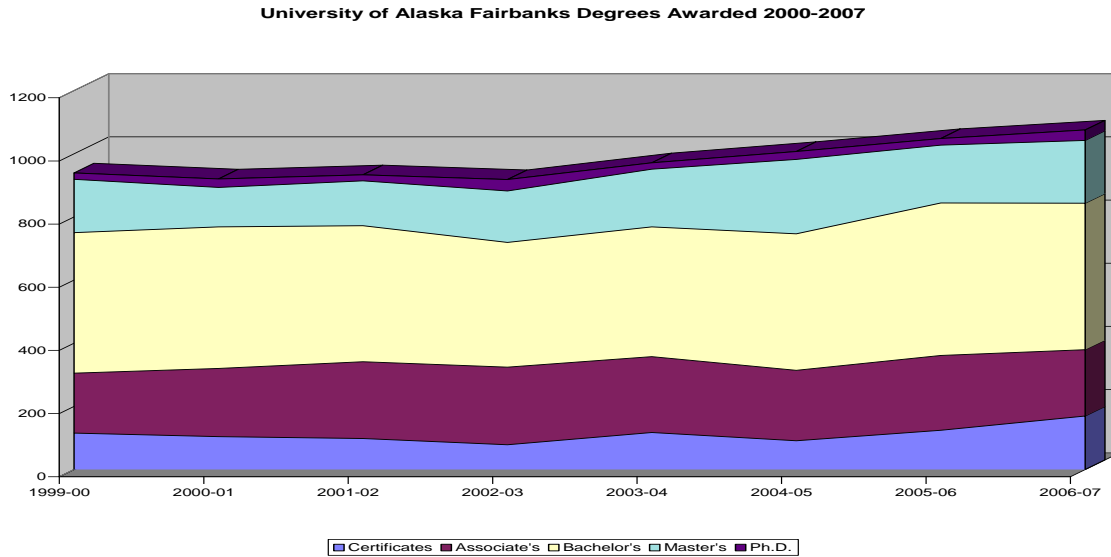
### *University*

The University of Alaska Fairbanks (UAF) was founded in 1917 as the Alaska Agricultural College and School of Mines, and is a Land, Sea, and Space Grant institution. UAF is home to a seven major research units. These units include the Agricultural and Forestry Experiment Station, Arctic Region Supercomputing Center, the Geophysical Institute, the Institute of Marine Science, the Institute of Arctic Biology, the Institute of Northern Engineering, and the International Arctic Research Center. The Alaska Native Language Center and the University of Alaska Museum of the North are also located on UAF's campus. UAF's Geophysical Institute operates the Poker Flat Research Range, the only university-owned scientific rocket launching facility in the nation.<sup>47</sup>

Eight academic schools and colleges are housed within UAF. These include the College of Engineering and Mines, the College of Liberal Arts, the College of Natural Science and Mathematics, the College of Rural Alaska, the School of Education, the School of Fisheries and Ocean Sciences, the School of Management, and the School of Natural Resources and Agricultural Sciences. UAF offers 163 degrees and 24 certificates in 114 disciplines, and is the only doctoral degree granting institution in Alaska.

Between the close of the 1999-00 and 2006-07 academic years, the total number of degrees awarded annually by UAF has increased nearly 13% to 1,075 (Figure 17). The total number of Associate and Bachelor degrees awarded increased 9.5% to 210 and 4% to 464 respectively during this period. The total number of Masters and Ph.D. degrees awarded during this period increased 15% and 40% to 199 and 33 respectively.

**Figure 17: University of Alaska Fairbanks Degrees Awarded**

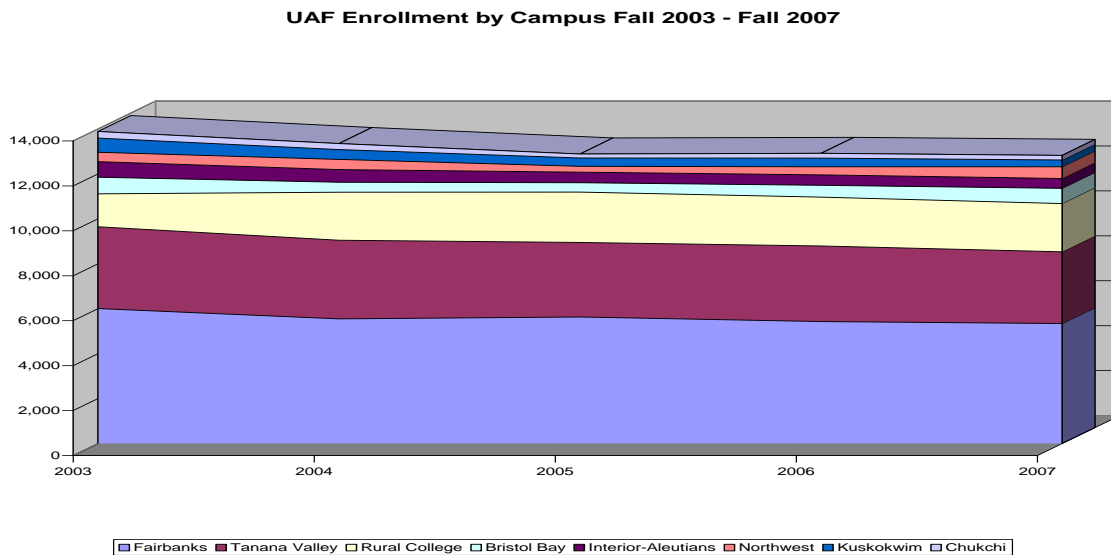


Source: FNSB Community Research Center

UAF encompasses eight campuses in rural and urban locations throughout the state. These campuses include Dillingham's Bristol Bay campus, Kotzebue's Chukchi Campus, Bethel's Kuskokwim Campus, Nome's Northwest Campus, Fairbanks's Tanana Valley Campus, the Interior-Aleutians Campus, as well as the Rural College.

Between the fall semester of 2003 and fall semester of 2007, total enrollment in the UAF system has declined 8.3% to 12,823 students (Figure 18). During this same period enrollment at UAF's main campus in Fairbanks has decreased 11.1% to 5,336 students.

**Figure 18: University of Alaska Enrollment**



Source: University of Alaska Statewide System of Higher Education (UA in Review 2008)

### *Research and Technology*

2008 finds a high technology industry emerging in the Borough. This takes the form of cold climate research and testing, software development, and micro-electronics manufacturing. Local firms and community organizations have partnered with the University of Alaska at Fairbanks (UAF) to create additional technology research and testing opportunities.

In September 2006, Cold Climate Housing Research Center (CCHRC) finished construction of a cold weather research test facility and demonstration project on a 2.5 acre parcel within the 30 acre parcel UAF has identified for a research park. CCHRC is partnering with university researchers, industry experts and entrepreneurs to develop, test, and certify arctic and energy efficient construction techniques, materials, and products.<sup>48</sup>

UAF recently created an Office of Electronic Miniaturization (OEM), which has partnered with the Department of Defense's Defense Microelectronics Activity (DMEA) to develop replacement components suitable for new systems and retrofit and upgrade of aging military electronic systems. These products will be prototyped and produced in low volumes that will serve to maintain the usability of these fielded systems between generations of design. These small batch products may result in the creation of new intellectual property in miniaturization technology that spurs the creation of firms to commercialize this technological innovation. OEM has completed the certification process for its facility and the qualification process for production, receiving high marks in both areas. OEM has delivered 200 prototype SRAM (memory) modules to an aerospace firm that is developing a prototype wireless intrusion detection system.<sup>49</sup>

## **Agriculture and Forestry**

### *Agriculture*

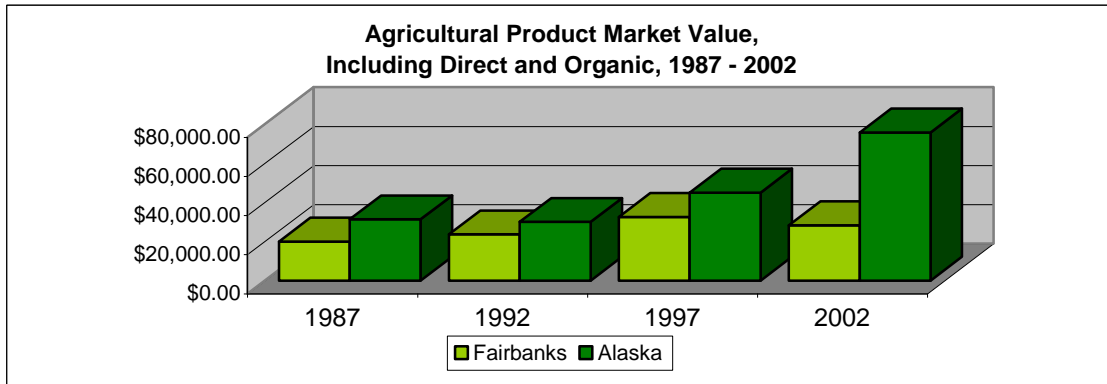
In the last decade, the Tanana Valley has produced an about one third of Alaska's agricultural products. Local farmers planted 58.8% of the total Alaskan acreage farmed and in the 1990s accounted for 33.1% of the average total crop production including approximately 10% of the State's vegetable production. Greenhouse operations are prominent, producing both plants and vegetables. Hay, grain and potatoes are customary crops and livestock includes goats, sheep and cattle.

The number of farms in the FNSB area, including the Tanana Valley, increased four percent between 1997 and 2002.<sup>50</sup> During this same period, the number of farms statewide increased 11%. Land in FNSB farms declined seven percent. Statewide, land in farms increased two percent.

Market value of FNSB agricultural products sold declined nine percent. During this same period, the statewide market value of agricultural products sold increased 87%. Average

market value of production per farm in the FNSB declined 13% compared with a 68% increase statewide (Figure 19).<sup>††</sup>

**Figure 19: Agricultural Products**

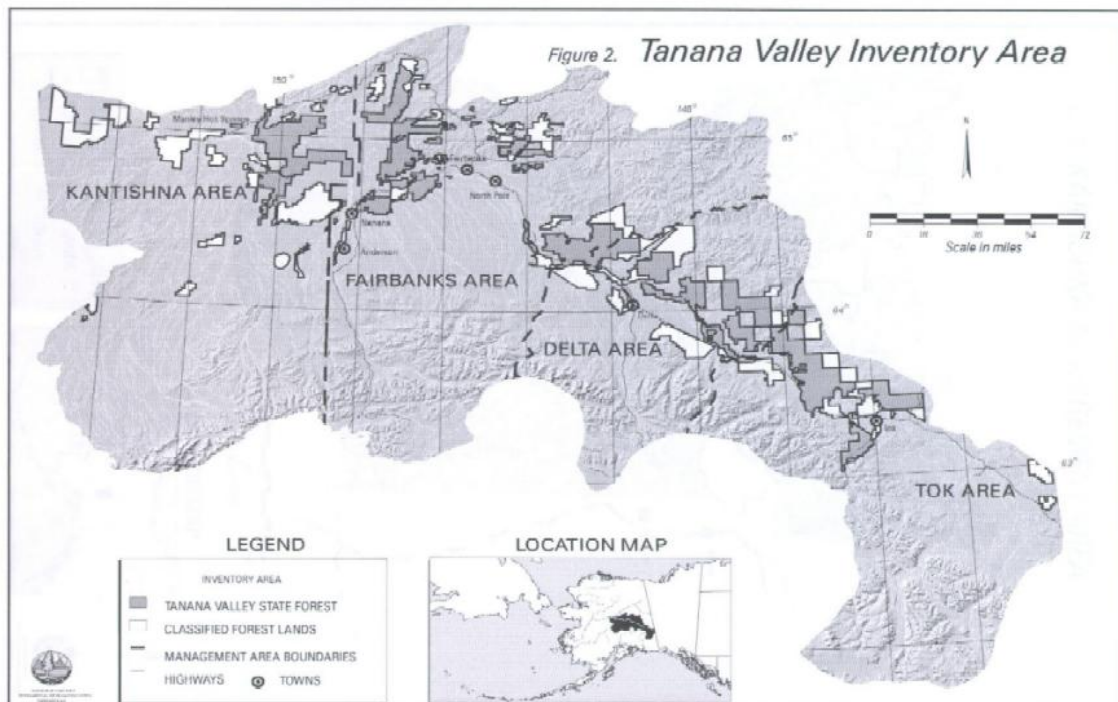


Source: US Dept of Agriculture, Census of Agriculture

### *Forestry*

The Tanana Valley State Forest covers approximately 1.8 million acres (Figure 20) and extends about 450 miles east from the City of Tanana at the confluence of the Tanana and Yukon rivers to the Canadian border. Approximately 578,000 acres of this forest are within the FNSB's boundaries.

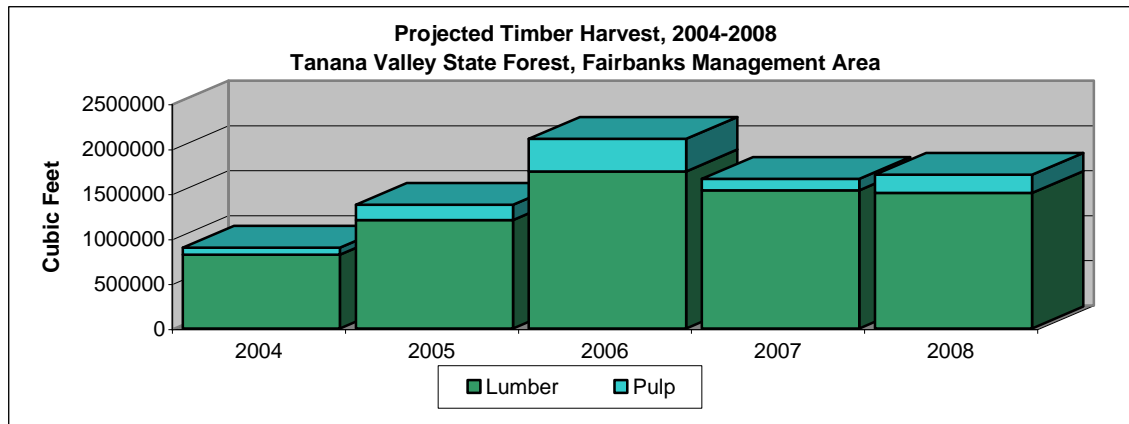
**Figure 20: Forestry Inventory**



Source Alaska Department of Natural Resources

The FNSB is an important market for wood products, consuming an annual average of seven million board feet of graded dimensional lumber. Local mills supply a fraction of this product and typically produce rough, ungraded lumber such as house logs. Local secondary processors produce wooden bowls, chop sticks, paneling, and flooring.

**Figure 21: Projected Timber Harvest**



Source: AK Department of Natural Resources, Division of Forestry

The Alaska Department of Natural Resources Division of Forestry projects timber harvests in Fairbanks Region will total approximately seven million cubic feet of sawlogs between 2004 and 2008 (Figure 21).<sup>51</sup> During this same period two million cubic feet of wood fiber will be harvested.

## Mineral, Oil and Gas Development

### *Mineral Development*

The FNSB serves as a staging area for much of the State's mineral exploration and development. Three of the state's largest mining operations (Usibelli, Fort Knox and Pogo) lie within 150 miles of the FNSB. The potential improvement of the Interior's transportation systems will greatly increase the ability to develop these mineral resources and access more remote resources. As Interior Alaska's mineral deposits are discovered and developed, the FNSB will provide labor expertise, construction equipment, and support services for these operations.

Refined gold production in the Eastern Interior Region of Alaska, including the FNSB, increased 21% between 2000 and 2006 to approximately 474,900 ounces from 392,862 ounces.<sup>52 53</sup> During this same period the statewide total for refined gold production increased 7% to 528,000 ounces from 570,000 ounces.

In 1997, Alaskan gold production by hard rock mines exceeded production of placer mines for the first time in over fifty years. Fort Knox Gold Mine, operated by Kinross Gold Corporation, produces about 330,000 ounces of gold per year. The Pogo Mine, operated by Teck Pogo Inc., is located 115 miles east of Fairbanks began operating in early 2006 and produced approximately 113,000 ounces of gold that year. The Pogo project is expected to produce in the region of 375,000 to 500,000 ounces of gold annually for approximately 12 years.<sup>54</sup>

Usibelli Coal Mine (UCM) is headquartered in the Denali Borough and has a long history of serving the energy needs of the Fairbanks area. UCM has been in production for nearly sixty years and is Alaska's only operating coal mine. Since 1943, UCM's annual mine production has grown from 10,000 tons to an average of 1.5 million tons of coal. About half of this annual production is transported by rail to the Port of Seward for export.

Mining continues to contribute significantly to Alaska's economy. This industry, which dates back to the late 19<sup>th</sup> century, remains profitable and viable. About five percent, or \$1.5 billion, of the state's gross economic product is directly attributable to Mineral development and mining activities.

Increased global mineral demand and resulting high minerals prices, have led to expanded exploration and development statewide, particularly in the mineral rich Eastern Interior / Fairbanks District. Statewide exploration expenditures for 2006 are estimated at \$180 million. Much of this exploration and development activity is occurring in and in close proximity to the Fairbanks District.<sup>55</sup>

The Alaska State Department of Labor reports that the 2006 FNSB average monthly employment in the mining was 1,300 with average monthly wages of \$6,899.<sup>56</sup>

### *Oil & Gas Development*

The FNSB serves as an important staging area for oil and gas exploration, development, and production in Alaska's Northern and Interior Regions. The FNSB is the midpoint of the 800 mile Trans Alaska Pipeline System (TAPS) that runs south from Prudhoe Bay to Valdez. TAPS supplies refineries located in the FNSB with Alaska North Slope (ANS) crude oil. ANS crude is taken from the TAPS and refined into jet fuel, gasoline, heating oil and other refined products. These petroleum products supply regional demand and are shipped via rail to Anchorage and international locations.<sup>57</sup> The Alyeska Pipeline Service Company, which maintains, upgrades, and monitors the TAPS, operates a pump station and a maintenance / spill response base in the FNSB.<sup>58</sup>

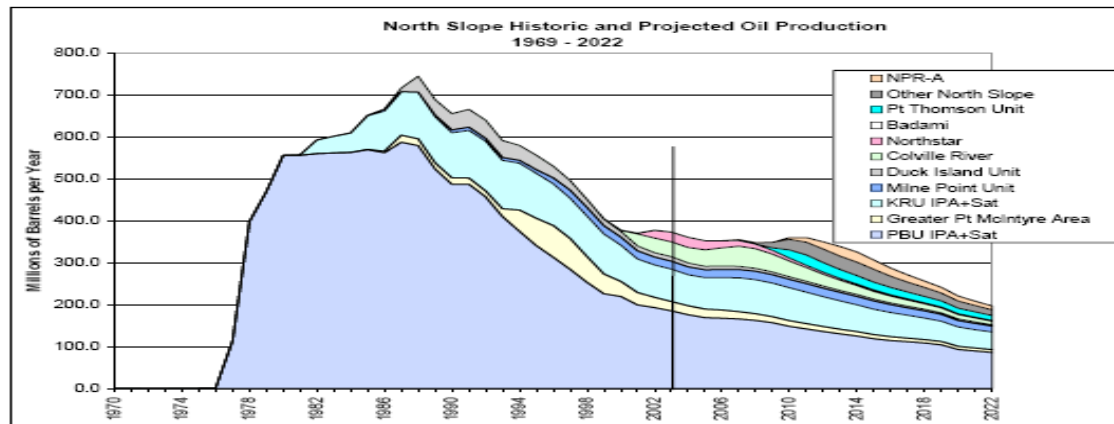
Oil and gas deposits comparable to those of Cook Inlet, have been identified in the Yukon Flats region. The USGS reports that this region, 200 miles from Fairbanks, contains 5.5 trillion cubic feet of natural gas and 173 million barrels of oil. Development

and production of these resources are pending resolution of land and environmental concerns.

Exploration of several oil and natural gas deposits in the Interior region are currently underway. A consortium of energy, oil and gas, and ANCSA Regional Native corporations are currently exploring a 500,000 acre site in the Nenana Basin with estimated deposits in excess of three trillion cubic feet of recoverable natural gas. In addition to development of oil and gas reserves in the Interior, other promising prospects for oil and gas development exist in Alaska's North Slope.

Production from North Slope oils fields peaked in 1988 at two million barrels per day in 1998.<sup>59</sup> Currently, ANS production remains steady at just below one million barrels per day. The declines in production rates from the large Prudhoe and Kaparuk fields have been redressed through development of satellite fields and advances in drilling technology.<sup>60</sup> The Alaska State Division of Oil and Gas forecasts North Slope oil production will remain at its current level of 350 million barrels per year until 2010 (Figure 22). Sustained exploration and drilling activity is expected to continue as oil development begins in the National Petroleum Reserve-Alaska (NPR-A). Exploration and development of petroleum resources in the Arctic National Wildlife Reserve (ANWR) are pending Congressional approval.

**Figure 22: Oil Production**



Source: Alaska Department of Natural Resources

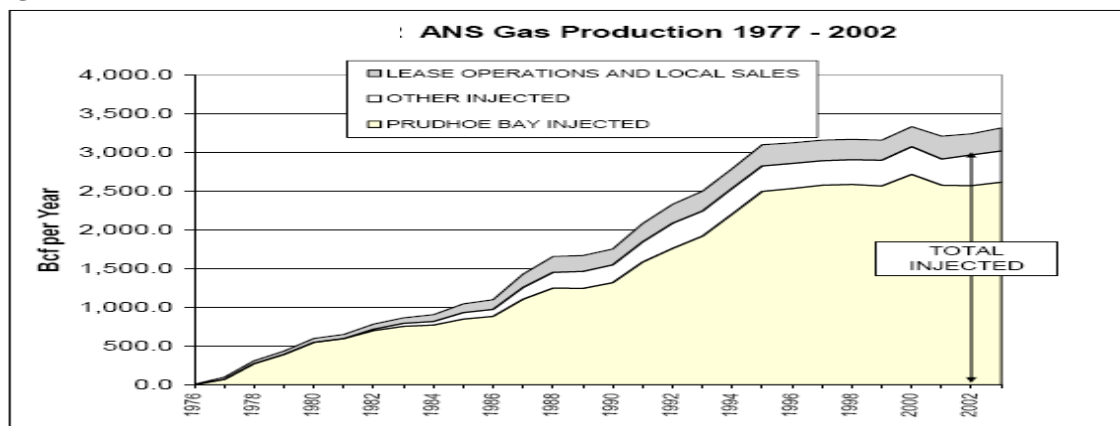
With the end of “peak oil” production in the North Slope, interest in developing and marketing the State’s natural gas reserves continues to grow. There are currently 35 trillion cubic feet (tcf) of known reserves of natural gas on the North Slope, with total North Slope reserves being estimated at 100 tcf.<sup>61</sup> Much of this gas is re-injected into the ground to increase production from existing oil fields, while some gas is used by oil producer lease operations or sold locally (see Figure 23).<sup>62</sup>

Construction of a pipeline to transport these natural gas reserves to market is estimated to cost \$20 billion. Sustained high natural gas prices will continue to provide economic

incentive for pipeline construction. Currently several proposals exist for construction and routing of the Natural Gas Pipeline.

The Alaska Department of Labor reports that in 2007, the manufacture of petroleum and coal products in the FNSB provided monthly average employment of 180.<sup>63</sup> FNSB average monthly employment in the pipeline sector of the transportation and warehousing industry was 142.<sup>64</sup>

Figure 23: ANS Gas Production



Source: Alaska Department of Natural Resources

## Visitor Industry

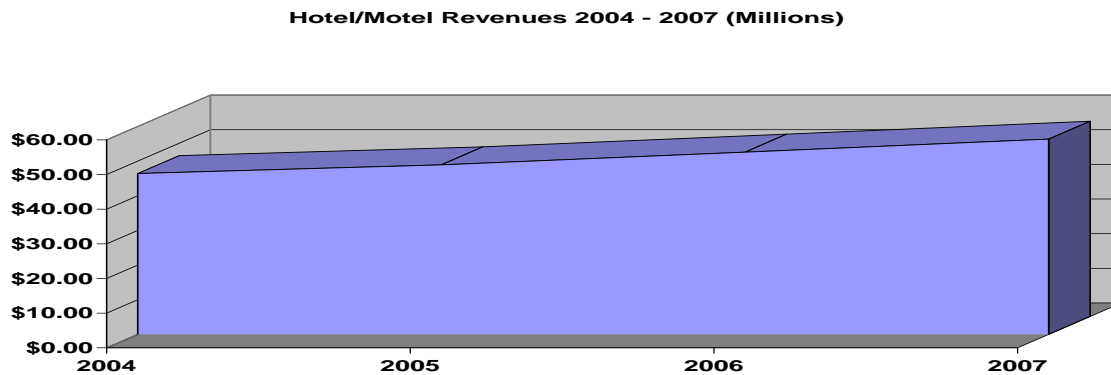
Fairbanks is a gateway for travelers from Asia, Europe, and the continental United States. The proximity of Denali National Park has made Fairbanks a popular overnight destination for many cruise and tour companies Alaskan. These tours typically include a combination of travel options to Fairbanks including air, rail, and motor coach transportation. Additionally, Fairbanks is popular gateway for tours into Alaska's Northern Region. Visitors to Fairbanks can take a tour of a rural Alaskan community and experience first hand the region's rich cultural heritage and tradition.

While the majority of visitors arrive during the summer months, Fairbanks is succeeding in developing itself as a popular destination for winter tourism. Winter tourism in Fairbanks has benefited from the proximity of world-class cross-country skiing, snowmobiling, dog-mushing, winter festivals and numerous hot springs. The World Ice Art Championships, held annually in March, draw artists and visitors from around the globe. Additionally, Fairbanks is one of the premier locations in Alaska for visitors viewing the Northern Lights.

The role of the visitor industry in the FNSB's economy continues to increase as grows as tourist and business destination. Since 2004, gross revenue collected by hotel and motel operators has increased 7.1% to \$56,319,733 in 2007 (Figure 24).<sup>65</sup>

Additionally, the total number of visitors to the FNSB during the summer months has increased 30% in 2006 to approximately 390,000.<sup>66</sup> During this same period, visitors arriving in Fairbanks via cruise related tour packages increased 23% to approximately 161,000 people while non-cruise visitation increased 5%.

**Figure 24: Hotel/Motel Revenues**



## Alaska Native Corporations

Alaska Native Corporations play an important role in the FNSB economy. These corporations own, operate, and manage various development projects and businesses in the FNSB and statewide. Additionally, several Alaska Native Regional Corporations operate corporate subsidiaries in the FNSB. These Native Corporations include Ahtna Inc., Arctic Slope Regional Corp., Bristol Bay Native Corp., Calista Corp., Chugach Corp., Cook Inlet Region Inc., and NANA Corp. Regional and Village corporations serve their shareholders through dividends, workforce training, employment opportunities, charitable contributions, and social and cultural leadership.

Doyon Limited (Doyon), an Interior Regional Native Corporation, is headquartered in Fairbanks<sup>67</sup> and is regularly listed as one of the state's top 49 Alaskan owned and operated businesses. Doyon is the largest private landowner in Alaska with 12.5 million acres of land in Interior Alaska and has over 14,000 shareholders. Doyon operates several businesses and foundations in Fairbanks which include: Doyon Lands and Natural

Resources which manages Doyon's ANCSA lands and oversees continuing efforts to complete the transfer of ANCSA lands to Doyon; Doyon Drilling which designs and operates drilling rigs on the Alaskan North Slope; Doyon Universal Services which provides catering, security, and other services for remote oil, gas, and mining sites; and Doyon Properties which develops, manages, and markets Doyon's commercial and residential real estate activities.

Tanana Chiefs Conference (TCC) is the Interior's Regional Alaska's Native non-profit organization and provides political, social, healthcare and business development services for the 42 Interior Villages and is headquartered in Fairbanks. TCC operates the Chief Andrew Isaac Health Center, Dental and Eye center, and administers home care and community health nursing services. Additionally, TCC operates a business development center that provides technical assistance and loans to Interior region's entrepreneurs.

## **Chapter Four - Cluster Analysis**

### *Background and Theory*

The purpose of this analysis to identify the most competitive industries in the Fairbanks North Star Borough (FNSB), identify their inputs and then offer suggestions on how to improve the linkages between these industries in order to enhance the productivity and thus enhance the strongest industries within the region.

In addition to identifying the most competitive sectors within the FNSB we will also identify the least competitive and discuss the feasibility of making them more competitive on a national level.

### *Identification*

In order to rank the local industrial sectors in terms of national competitiveness data collected by the Minnesota IMPLAN Group, Inc (MIG, Inc) was used, along with an identification methodology known as Location Quotient (LQ). LQ works by comparing the percentage of workers employed in a given sector to the percentage of workers in that sector nationally. Industries in which the local percentage of employment is 25% greater than the national percentage,  $LQ > 1.25$ , we classify as being strong.

Prior to applying the LQ method local and national data from the IMPLAN group was aggregated based on the North American Industry Classification System (NAICS) 2 digit level. NAICS is the standard industrial classification system used by business and government to classify and measure economic activity in North America. (See Table 1)

**Table 1: LQ**

<b>Industry</b>	<b>Local Employment %</b>	<b>National Employment %</b>	<b>Location Quotient</b>
21 Mining	2.80%	0.50%	5.551
92 Government & non NAICS	35.90%	13.11%	2.739
22 Utilities	0.74%	0.33%	2.220
48-49 Transportation & Warehousing	5.21%	3.79%	1.374
72 Accommodation & food services	7.40%	6.75%	1.097
44-45 Retail trade	10.81%	10.71%	1.009
23 Construction	6.18%	6.38%	0.969
71 Arts- entertainment & recreation	1.80%	2.02%	0.891
62 Health & social services	8.61%	9.97%	0.863
53 Real estate & rental	3.21%	3.97%	0.807
81 Other services	3.90%	5.55%	0.703
51 Information	1.21%	2.00%	0.605
56 Administrative & waste services	3.14%	6.14%	0.512
54 Professional- scientific & tech	3.02%	6.77%	0.446

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services			
61 Educational services	0.85%	2.06%	0.415
42 Wholesale Trade	1.39%	3.68%	0.377
11 Ag, Forestry, Fish & Hunting	0.80%	2.19%	0.365
52 Finance & insurance	1.62%	4.69%	0.346
31-33 Manufacturing	1.28%	8.31%	0.154
55 Management of companies	0.13%	1.07%	0.118

Table 1 show that four industries, Mining, Government, Utilities and Transportation sectors meet the LQ criteria for being competitive. Unfortunately LQ alone is not enough classify competitive industry, any identification must also be based on sound economic theory and principle.

Using basic economic theory and common sense both Government and Utilities can be eliminated from consideration. While it is true that some utilities sell their services and products outside of the FNSB the bulk of their business is local. Any export is thought to be a small relative to total output. Much the same is true of Government. While government is overly represented, in terms of employment, in the FNSB it is not a sector that a stable and thriving economy can or should be based on. Local government is funded largely from local tax dollars thus it in and of it self usually can not be grown with have a negative impact. State and federal government employment often has positive impact on local economies but local municipalities have very little influence over them. As Fairbanks is a regional hub for state and federal government, some of this is “exported.” However, this is always at risk. For reasons such as these it is best to leave the Government sector out of this discussion. This leaves Mining and Transportation as two areas to focus on.

Not only do we want to focus on improving sectors where the FNSB is already strong but analyze relatively weak sectors with hopes of improving them. On the lower end of the spectrum we have Finance, Manufacturing and Management of companies. Finance and Management of companies tend to be secondary industries that thrive on other sectors. Thus that leaves Mining and Transportation at the upper end and Manufacturing at the lower end to be analyzed.

Now that our targets sectors have been identified we can examine the inputs to those industries and segment them into clusters. The first cluster will consist of the Mining industry and the industries that supply their major inputs.

**Table 2: Mining**

<b>Industry</b>	<b>Inputs</b>	<b>Local Inputs</b>	<b>RPC</b>	<b>Input %</b>
Mining	51.340	40.930	0.797	32.25%
Manufacturing	42.700	33.320	0.780	26.82%
Real estate & rental	19.510	13.080	0.670	12.25%
Management of companies	11.590	1.200	0.104	7.28%
Professional- scientific & tech services	10.190	5.110	0.501	6.40%
Transportation & Warehousing	5.130	3.980	0.776	3.22%
Finance & insurance	4.490	1.750	0.390	2.82%
Wholesale Trade	4.030	1.260	0.313	2.53%
Arts- entertainment & recreation	3.810	3.020	0.793	2.39%
Utilities	3.170	3.090	0.975	1.99%
Administrative & waste services	1.000	0.500	0.500	0.63%
Information	0.610	0.320	0.525	0.38%
Retail trade	0.570	0.480	0.842	0.36%
Government & non NAICs	0.420	0.410	0.976	0.26%
Other services	0.380	0.290	0.763	0.24%
Accommodation & food services	0.150	0.130	0.867	0.09%
Educational services	0.090	0.030	0.333	0.06%
Construction	0.020	0.020	1.000	0.01%
Ag, Forestry, Fish & Hunting	0.010	0.000	0.000	0.01%

Table 2 lists the input industries for the Mining sector. The input column lists the dollar value of the inputs the Mining industry draws from that particular sector. The local inputs column is the dollar value of the inputs that are purchased locally. The RPC is the percentage of the given input that is purchased locally.<sup>68</sup> The input percent is the ratio of the given industries input to the total inputs require but the local sector under consideration.

In the case of Mining over 70% of its total required inputs are provided by three sectors: Mining, Manufacturing and Real estate. Thus we can segment those three sectors into a cluster.

**Table 3: Transportation**

<b>Industry</b>	<b>Inputs</b>	<b>Local Inputs</b>	<b>RPC</b>	<b>Input %</b>
Manufacturing	79.840	62.300	0.780	35.95%
Transportation & Warehousing	50.380	39.030	0.775	22.68%
Professional- scientific & tech services	17.480	8.760	0.501	7.87%
Administrative & waste services	15.170	7.590	0.501	6.83%
Finance & insurance	12.960	5.060	0.390	5.83%
Real estate & rental	12.920	8.660	0.671	5.82%
Wholesale Trade	8.760	2.750	0.313	3.94%
Information	5.450	2.860	0.525	2.45%
Accommodation & food services	3.590	3.080	0.859	1.62%
Management of companies	3.080	0.320	0.104	1.39%
Other services	2.980	2.280	0.765	1.34%
Government & non NAICs	2.510	2.430	0.969	1.13%
Retail trade	2.380	2.010	0.845	1.07%
Utilities	1.600	1.560	0.975	0.72%
Mining	1.370	1.090	0.797	0.62%
Construction	1.130	1.130	1.000	0.51%
Educational services	0.300	0.120	0.388	0.14%
Arts- entertainment & recreation	0.120	0.090	0.792	0.05%
Health & social services	0.100	0.080	0.822	0.05%
Ag, Forestry, Fish & Hunting	0.000	0.000	0.111	0.00%

Table 3 shows that top four inputs industries for Transportation account for nearly 75% of the sector total inputs thus they can be classified into a cluster.

**Table 4: Manufacturing**

<b>Industry</b>	<b>Inputs</b>	<b>Local Inputs</b>	<b>RPC</b>	<b>Input %</b>
Manufacturing	711.77	555.41	0.780314	53.48%
Mining	127.48	101.64	0.797264	9.58%
Wholesale Trade	107.41	33.65	0.313316	8.07%
Professional- scientific & tech services	84.04	42.13	0.501317	6.31%
Transportation & Warehousing	52.64	40.77	0.774573	3.96%
Management of companies	51.85	5.39	0.103907	3.90%
Ag, Forestry, Fish & Hunting	47.36	5.27	0.111201	3.56%
Finance & insurance	29.42	11.48	0.390351	2.21%
Real estate & rental	26.73	17.92	0.670561	2.01%
Utilities	20.89	20.37	0.975168	1.57%
Information	19.73	10.36	0.524926	1.48%
Administrative & waste services	12.53	6.27	0.500506	0.94%
Other services	12.18	9.32	0.765129	0.92%
Accommodation & food services	10.34	8.88	0.858987	0.78%
Government & non NAICs	6.64	6.43	0.968833	0.50%
Construction	3.63	3.63	1	0.27%
Retail trade	3.27	2.76	0.84458	0.25%
Arts- entertainment & recreation	1.69	1.33	0.791892	0.13%
Educational services	1.29	0.5	0.387726	0.10%

Once again the top three input industries account for more than 70% of given sectors inputs, thus they can be classified together as a local cluster.

### *Analysis*

Now that the target clusters have been identified they can be examined more closely. The theory of cluster analysis states that once targeted clusters have been identified the information can be used to strengthen the links between intra-clusters industries. One possible way intra-cluster linkages can be improved is through the formation of local “cluster forums” in which representatives from stake holder industries can meet with an eye towards coordinating future business ventures thereby increasing the overall productivity of all those involved. These secondary effect forums often lead to an increase in the RPC for the exporting industries thus increasing the gross borough product (GBP) in the process.

*Conclusion*

The data presented here is two years old. Lags such as these are common in the world of economic data analysis. Due to this and other issues data analysis can never replace direct contact and interaction with stake holder industries. Direct interaction will always offer the most recent and robust information on local business sectors. Analysis such as the one presented here is only a first step towards identifying industry clusters and should not be taken as a conclusion to the process.

## Chapter Five – Strengths, Weaknesses, Opportunities, Threats Analysis

### Strengths:

- Educated population: FNSB population has a higher percentage of high school and college graduates than Alaska and the U.S. Overall, the FNSB maintains a strong secondary and post-secondary school system which adds to the strength in this area.
- Overall perception of high quality of life and strong community culture: Several surveys reveal an overall satisfaction amongst residents with their lives and their community.
  - A strong community spirit exists in the FNSB.
  - Interviews with community officials reveal a strong desire to improve the economy and the community.
- University research center: University of Alaska Fairbanks offers research facilities, know-how, available grant money, and research staff.
  - The university has the resources to engage in research, development and transfer of technology to private sector.
  - The university is a major recipient of federal research dollars in the form of grants.
- Strong transportation sector: FNSB is the geographical center of state, with access to the oil rich North Slope. Further it provides the shortest distance between Europe and the continental US. A well developed transportation system exists including air, rail and roads
  - The Richardson Highway/Alaska Highway connects the region to Canada and the ice-free port of Valdez.
  - FNSB is the gateway to Alaska's North Slope, an important area for oil/gas activities.
  - The FNSB is the northernmost terminus for the Alaska Rail. The Rail road and the Parks highway connects the Fairbanks region to the southern ports of Anchorage, Whittier and Seward.
- Multitudes of worker training programs: Several worker training programs are in existence in the FNSB. They primarily support existing industries such as management, construction, mining, medical and dental delivery and other administrative and public service functions.
- Strong natural resources sector with strong pricing environment: Extraction industry is strong and growing with strong commodity pricing environment.
  - Alaska is blessed with abundant natural resources including minerals and timber.
  - Many of these minerals have yet to be identified or fully developed.
  - FNSB is in proximity to major mining operations, which provide high-paying jobs.
- Lack of ostensible development constraints: Alaska and the FNSB do not have limiting building or zoning restrictions.

- The cities have building codes; while the greater borough does not have building code requirements.
  - 166 potential economic development sites, of five or more acres, have been identified within FNSB.
- Available infrastructure: Core infrastructure is in place, including electric, gas, water, telecommunications, broadband, water treatment and wastewater disposal.
  - 41,160 service locations for the electrical utility company. Natural gas distributed as LNG and propane.
  - Water facility produces 1.3 billion gallons annually. Wastewater facility handles 1.75 billion gallons annually.
  - Well developed DSL, Cable, wireless, fiber, T1 high-speed internet connections for both businesses and homes.

### **Weaknesses:**

- High energy costs.
- Fluctuating unemployment rates: Job environment suffers from a seasonality effect. Unemployment increases in the winter and contracts in the spring and summer season.
- Access to existing training programs not obvious: Existing training programs often overlap and do not appear to be meeting the needs of the residents. Existing worker training programs address a wide swath of job classifications; however, as in most markets, employers report worker a shortage of soft skills.
- Job training programs support existing economy only: Programs lack focus on knowledge-based, high-tech fields that are higher paying and would help diversify the economy.
- Lack of diversification within economy: Too much dependence on public sector for job base. Large local, state and federal government institutions account for 31 percent of the total job base in the FNSB. In addition, military personnel stationed at Ft. Wainwright and Eielson installations represent an additional 12.5% of all FNSB jobs.
- Geographical isolation: Geographical isolation makes business travel to and from Fairbanks more onerous and expensive, creates higher transportation costs for goods, and fewer regional resources to draw from.
- Promotion of community is uncoordinated: Insufficient coordination among business development groups of a vision and promotion strategy for the FNSB.
- High turnover of residents: Work force is highly mobile, making future trends in workforce quality hard to predict. Alaska is second only to Washington D.C. in this mobility factor.
- Limited venture capital sources: No existing business incubator/accelerator. No home-grown, locally based effort exists to fund local ventures.
- Intellectual capital development, patent knowledge, and technology transfer lacking: University of Alaska Fairbanks noted for low number of patents relative to Western U.S. land-grant universities.

## **Opportunities:**

- Available land to develop along with development friendly zoning designations and permitting policies: 166 possible economic development land parcels of varying sizes.
- Available local expertise: Know-how from existing research facilities (University of Alaska and Cold Climate Housing Research Center), established business sectors such as mining, oil & gas, tourism, construction, transportation, and DoD-related activities.
- Department of Defense presence: offers opportunities to team with defense contractors for incubator support and other research efforts.
- Unique geographical setting: Geographical location as northernmost economic region of Alaska lends itself to development of unique research opportunities (i.e., study of arctic, climate changes and their effect on the environment).
- Strong pricing environment for minerals: Offers opportunities to further develop industries related to the vast mineral deposits in Alaska.
  - Opportunity exists for the FNSB to become the leading hub for the creation of new technologies related to mineral extraction, much as Houston, Texas is the hub for the oil and gas industry.
  - Opportunity includes technological know-how and support industries for further development as well as best practice safeguards to protect the natural environment.

## **Constraints:**

- Tight labor market: Employers report a lack of skilled workforce for new and existing positions. Skills shortfall includes soft skills as well as profession specific skills. This tight labor market constrains growth.
- Rugged individualistic thinking: Highly individualistic population that might offer some resistance to centrally directed efforts such as business accelerator and other long term economic development programs.
- Small demographic base: Lack of population density and lack of a larger regional economic base to draw from.
- Federal/State government dependence: Dependence on grant money from federal government for development projects. Lack of locally-based and driven funding mechanism for venture capital.
- Environmental conditions: Significant amount of wetlands plus governmental restriction against wetlands development constrains use of much land in the FNSB for commercial development.
- Local sources of energy not developed: Natural gas reserves located to the north and southwest not tapped into for local use, thereby making area dependent on expensive heating oil, LNG and propane for heating.

## Chapter Six - Prioritized Projects, Programs, Activities, etc.

Figure 31: Prioritized Projects, Programs, Activities

- 1 Support development of affordable energy resources.
- 2 Support IIC/Think tank program (development of vision and plan for future).
- 3 Support efforts to retain and develop military presence in the interior.
- 4 Encourage the UAF to become a national center of excellence in Life Science Innovation and Learning and Energy and Engineering.
- 5 Promote establishment of a successful technology transfer system and accelerator to commercialize technology transfer.
- 6 Develop Fairbanks as the Regional Hub for commerce, social and cultural exchanges.
- 7 Support the design, funding and construction of track relocation that would improve functionality and enhance the role of FNSB as a hub for the Alaska Railroad.
- 8 Support Downtown Revitalization project.
- 9 Develop valued added natural resource extraction industry.

## Chapter Seven - Performance Measures

**Dept: Mayor's Office**  
**Div: Economic Development**  
**Measures & Statistical Accomplishments**

The FNSB intends to measure the success of this section by the use of the following measures, over time.

<u>Measures*</u>	<u>2003/04</u> <u>Actual</u>	<u>2004/05</u> <u>Actual</u>	<u>2005/06</u> <u>Actual</u>	<u>2006/07</u> <u>Budget</u>	<u>2007/08</u> <u>Budget</u>
Measure 1. Change in Gross Borough Product	3.5%	2.7%	1.7%	1.99%**	3.0%
Measure 2. Change in average annual monthly employment	2.1%	3.7%	2.7%	0.79%**	2.5%
Measure 3. Change in average monthly wage	5.7%	2.9%	4.0%	unavailable***	3.0%
Measure 4. Change in value of loans made	11.1%****	6.9%	9.9%	8.8%	8.5%
Measure 5. Change in unemployment rate	7.0%	6.4%	5.8%	5.8%	5.5%

### Additional Statistical Accomplishments

Assisted local businesses and non-profits by providing information about funding opportunities, developing their business, the economy and referrals.

185      242      278      300      15%

Conducted economic development summits, trainings, increase economic development capacity of borough.

10      11      15      20      10%

### Advanced Regional Hub

Working with FEDC implemented strategic plan to re-establish the Borough as the Regional social and economic hub for the Northern and Interior Region.

### Advanced Gas Pipeline Project

All Alaska Gas Pipeline application filed with state, offer to purchase gas made to producers, office set up in Fairbanks North Star Borough.

### Challenges

Stryker Brigade deployment.  
Eielson realignment.  
Lack of available trained workforce to fill job openings.  
USPS proposal to send Bypass mail over Haul Road.  
Local, state, and government employees constitute 43% of total employment.

### Additional Accomplishments

Firmly re-established Fairbanks as Regional Hub for Interior and Northern Alaska.

In partnership with FEDC countered USPS efforts to reroute Barrow-Fairbanks bypass mail.

Led community efforts to Save Eielson  
Began preparing analysis for Community Research Quarterly

\*All of the measures are reported by other sources on a calendar year basis.

\*\*2006 data not available until March 2007; reflects data through third quarter only.

\*\*\*2006 data not available until April, 2007.

\*\*\*\*June 2004 Wells Fargo changed their reporting from a regional basis to FNSB specific branches.

## Chapter Eight - FNSB ARDOR FY 2006 Funding Sources

Figure 32: FNSB ARDOR Funding Sources

Amount	Source
\$51,666	State ARDOR grant
\$25,000	Other State funds
\$	Federal funds
\$0	Private sector funds
<u>\$376,666</u>	<u>Other non-federal, non-State funds</u>
\$452,332	Total FY 06 ARDOR Budget

## End Notes

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<sup>1</sup> US Census Bureau, Geographic Area: Fairbanks North Star Borough, 2007  
<http://factfinder.census.gov>

<sup>2</sup> US Census Bureau, Table DP-1 “Profile of General Demographic Characteristics: 2000”  
Geographic Area: Fairbanks North Star Borough, 2000 Census, May 2002.  
<http://www.labor.state.ak.us/>

<sup>3</sup> Alaska Department of Labor and Workforce Development, Alaska Economic Trends “Population Projections 2005-2029”, February 2005

<sup>4</sup> US Census Bureau, American Community Survey  
<http://factfinder.census.gov>

<sup>5</sup> Ibid

<sup>6</sup> Ibid

<sup>7</sup> Ibid

<sup>8</sup> Ibid.

<sup>9</sup> Ibid

<sup>10</sup> Alaska Department of Labor and Workforce Development, Alaska Economic Trends “Population Projections 2005-2029”, February 2005

<sup>11</sup> US Census Bureau, American Community Survey  
<http://factfinder.census.gov>

<sup>12</sup> Ibid.

<sup>13</sup> US Census Bureau, Table DP-1 “Profile of General Demographic Characteristics: 2000”  
Geographic Area: Fairbanks North Star Borough, 2000 Census, May 2002.  
<http://www.labor.state.ak.us/>

<sup>14</sup> Alaska Department of Labor and Workforce Development, Research and Analysis  
Workforce Info, Industry Employment Estimates; Fairbanks North Star Borough 1990-2004  
<http://almis.labor.state.ak.us/>

<sup>15</sup> Alaska Department of Labor and Workforce Development, Alaska Economic Trends “Employment Forecast for 2008”, January 2008

<sup>16</sup> Labor Force Statistics By Month For Fairbanks Metropolitan Statistical Area 1990 To Present  
[http://www.labor.state.ak.us/research/emp\\_ue/fblf.htm](http://www.labor.state.ak.us/research/emp_ue/fblf.htm)

<sup>17</sup> Ibid

<sup>18</sup> Alaska Department of Labor and Workforce Development, Alaska Economic Trends “Employment Forecast for 2008”, January 2008

<sup>19</sup> Alaska Department of Labor and Workforce Development, Alaska Economic Trends “Employment Forecast for 2008”, January 2008

<sup>20</sup> Bureau of Economic Analysis: Regional Economic Accounts  
<http://www.bea.gov/regional/bearfacts/action.cfm>

<sup>21</sup> Labor Force Statistics By Month For Fairbanks Metropolitan Statistical Area 1990 To Present  
[http://www.labor.state.ak.us/research/emp\\_ue/fblf.htm](http://www.labor.state.ak.us/research/emp_ue/fblf.htm)

<sup>22</sup> Labor Force Statistics By Month For State of Alaska 1990 To Present  
[http://www.labor.state.ak.us/research/emp\\_ue/aklf.htm](http://www.labor.state.ak.us/research/emp_ue/aklf.htm)

<sup>23</sup> Alaska - Fact Sheet 2000 vs. 2006  
<http://factfinder.census.gov/>

<sup>24</sup> US Census Bureau, DP-3, “Labor Force and Employment Characteristics: 1990”  
Geographic Area: Fairbanks North Star Borough, Alaska

<sup>25</sup> Alaska Department of Labor and Workforce Development, Research and Analysis  
Workforce Info, Industry Employment Estimates; Fairbanks North Star Borough 1990-2007  
<http://almis.labor.state.ak.us/>

<sup>26</sup> Beginning January 2001, wage and salary employment estimates were published under a new classification system. The Standard Industrial Classification system (SIC) has been replaced by the North American Industry Classification System (NAICS). Data prior to 2001 are comparable only at the Total Nonfarm and Government levels.

<sup>27</sup> Alaska Department of Labor and Workforce Development, Research and Analysis  
Workforce Info, Industry Employment Estimates; Fairbanks North Star Borough 1990-2007  
<http://almis.labor.state.ak.us/>

<sup>28</sup> Alaska Department of Labor and Workforce Development, Research and Analysis  
Workforce Info, Industry Employment Estimates; Fairbanks North Star Borough 1990-2007  
<http://almis.labor.state.ak.us/>

<sup>29</sup> US Census Bureau, DP-3, “Labor Force and Employment Characteristics: 1990”  
Geographic Area: Fairbanks North Star Borough, Alaska

<sup>30</sup> US Census Bureau, “Profile of General Demographic Characteristics: 2000,”  
Geographic Area: Fairbanks North Star Borough, 2000 Census, May 2002, p 3.  
<http://www.labor.state.ak.us/research/cgin/sf3profiles/fbks.pdf>

<sup>31</sup> Alaska Department of Labor and Workforce Development, Research and Analysis  
Workforce Info, Industry Employment Estimates; Fairbanks North Star Borough 1990-2007  
<http://almis.labor.state.ak.us/>

<sup>32</sup> Beginning January 2001, wage and salary employment estimates were published under a new classification system. The Standard Industrial Classification system (SIC) has been replaced by the North American Industry Classification System (NAICS). Data prior to 2001 are comparable only at the Total Nonfarm and Government levels.

<sup>33</sup> Bureau of Economic Analysis: Regional Economic Accounts  
<http://www.bea.gov/regional/bearfacts/action.cfm>

<sup>34</sup> Bureau of Economic Analysis: Regional Economic Accounts  
<http://www.bea.gov/regional/bearfacts/action.cfm>

<sup>35</sup> US Census Bureau, “Small Area Income & Poverty Estimates”  
<http://www.census.gov/hhes/www/saipe/index.html>

<sup>36</sup> Ibid

<sup>37</sup> Fairbanks International Airport, Comparative Statistical Fiscal Year Summary Report 2007

<sup>38</sup> Alaska Railroad Corp., Personal Communications

<sup>39</sup> State of Alaska Department of Administration, Department of Motor Vehicles  
<http://www.state.ak.us/local/akpages/ADMIN/dmv/research/research.htm>

<sup>40</sup> Golden Valley Electric Association, “2008 Load Forecast”, Appendix A, p. 1

<sup>41</sup> Utility Services of Alaska  
<http://www.akwater.com/>

<sup>42</sup> Utility Services of Alaska  
<http://www.akwater.com/>

<sup>43</sup> Jordan, Bob, “FY07 Year End Report,” Fairbanks North Star Borough Solid Waste Division

<sup>44</sup> Ibid

<sup>45</sup> <http://www.wainwright.army.mil/sites/tenants/>

<sup>46</sup> <http://www.eielson.af.mil/index2.htm>

<sup>47</sup> <http://www.uaf.edu/uaf/about/facts.html>

<sup>48</sup> <http://www.cchrc.org/>

<sup>49</sup> <http://www.silicontundra.org/content/>

<sup>50</sup> US Department of Agriculture, “2002 Census of Agriculture, Area Profile, Fairbanks Alaska”, NASS Alaska Agricultural Statistics Service

<http://www.nass.usda.gov/ak/>

<sup>51</sup> State of Alaska, “Timber Harvest Schedule 2003-2008, Fairbanks Area”, Department of Natural Resources Division of Forestry.

<http://www.dnr.state.ak.us/forestry/timber/index.htm>

<sup>52</sup> Alaska’s Mineral Industry 2000 – Division of Geological & Geophysical Surveys Special Report 55, State of Alaska

<sup>53</sup> Alaska’s Mineral Industry 2006 – Division of Geological & Geophysical Surveys Special Report 61, State of Alaska

<sup>54</sup> <http://www.dnr.state.ak.us/mlw/mining/largemine/pogo/index.htm>

<sup>55</sup> Alaska’s Mineral Industry 2006 – Division of Geological & Geophysical Surveys Special Report 61, State of Alaska

<sup>56</sup> Fairbanks North Star Borough: Community Research Quarterly, Vol. XXX, No.4

<sup>57</sup> <http://www.cometofairbanks.com/bnatural.php>

<sup>58</sup> [http://www.alyeska-pipe.com/Strategic%20Reconfiguration/PRO\\_12pg\\_Final\\_LR.pdf](http://www.alyeska-pipe.com/Strategic%20Reconfiguration/PRO_12pg_Final_LR.pdf)

<sup>59</sup> [http://www.dog.dnr.state.ak.us/oil/products/publications/annual/2004\\_annual\\_report/complete\\_report.pdf](http://www.dog.dnr.state.ak.us/oil/products/publications/annual/2004_annual_report/complete_report.pdf)

<sup>60</sup> *ibid.*

<sup>61</sup> *ibid.*

<sup>62</sup> *ibid.*

<sup>63</sup> <http://www.labor.state.ak.us/research/ee/ee07.pdf>

<sup>64</sup> *Ibid.*

<sup>65</sup> Fairbanks North Star Borough: Community Research Quarterly, Vol. XXX, No.4

<sup>66</sup> Fairbanks Convention and Visitors Bureau Overnight Visitor Volumes

<sup>67</sup>

<sup>68</sup> Note: By convention the RPC is represented as decimal rather than a percent